(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
1 March 2001 (01.03.2001)

PCT

(10) International Publication Number
WO 01/15003 A2

(51) International Patent Classification[7]: G06F 17/00

(21) International Application Number: PCT/US00/23240

(22) International Filing Date: 24 August 2000 (24.08.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/383,572 25 August 1999 (25.08.1999) US

(71) Applicant: **MERRILL LYNCH & CO. INC.** [US/US]; 250 Vesey Street, New York, NY 10281 (US).

(72) Inventors: **ALLEN, Paul**; 25 Ropemaker Street, London EC24 9LY (GB). **BARNES, Nicholas**; 25 Ropemaker Street, London EC24 9LY (GB). **HUTCHINGS, Daniel**; 25 Ropemaker Street, London EC24 9LY (GB). **LAGADEC, Marc**; 25 Ropemaker Street, London EC24 9LY (GB). **JONES, Gavin**; 25 Ropemaker Street, London EC24 9LY (GB). **REILLY, David**; 25 Ropemaker Street, London EC24 9LY (GB). **WARD, Robert**; 25 Ropemaker Street, London EC24 9LY (GB). **WYATT, Richard**; 25 Ropemaker Street, London EC24 9LY (GB).

(74) Agent: **WEIDER, Douglas, R.**; Hopgood, Calimafde, Kalil & Judlowe, 60 East 42nd Street, New York, NY 10165 (US).

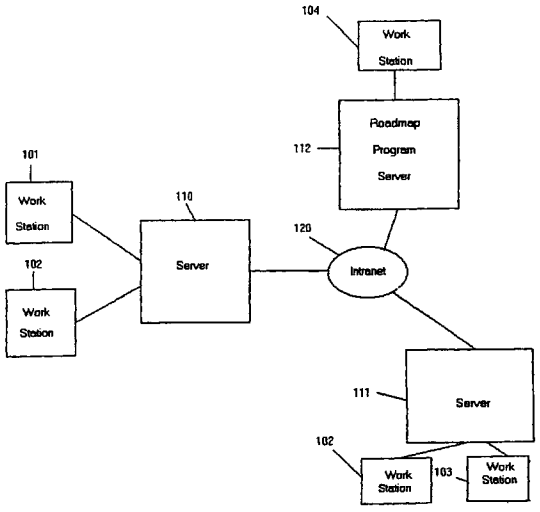
(81) Designated States *(national)*: AE, AG, AL, AU, BA, BB, BG, BR, BZ, CA, CN, CR, CU, CZ, DM, DZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MA, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, UZ, VN, YU, ZA.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:
— *Without international search report and to be republished upon receipt of that report.*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SYSTEM FOR PLANNING, DEPLOYING AND EVOLVING TECHNOLOGY INFRASTRUCTURE



(57) Abstract: A system for planning, deploying and evolving technology infrastructure for a large multi-disciplined organization. The system includes a database where the elements of the technology infrastructure are maintained and a database software tool to serve as an interface between a plurality of users and the database. The system employs a methodology for defining, organizing and indexing all the elements of a technology infrastructure for an organization. The elements are divided into components, groups of components called streams, and groups of streams called infrastructure categories. The data maintained on the elements includes a defined scope, a long range strategy, dependencies on other elements, the support status for the element within the organization, and the status of projects relating to the elements. The database software tool organizes the elements into a technology roadmap, which contains easy to follow links to the details maintained on each of the elements.

WO 01/15003 A2

SYSTEM FOR PLANNING, DEPLOYING AND EVOLVING TECHNOLOGY INFRASTRUCTURE

Field of the Invention

The present invention is directed to a computer system and method for planning the introduction of new technologies and managing the evolution of existing technologies for a large multi-disciplined organization. More particularly, the present invention is directed to a program controlled computer system interconnected to plural users, which supports the planning, deployment and evolution of new and existing technologies by employing: (1) a methodology for defining, organizing, and indexing an organization's technology infrastructure data, (2) a central database for maintaining the technology infrastructure data generated through the methodology, and (3) a software tool which serves as an interface between the users and the central database.

BACKGROUND OF THE INVENTION

There are an increasing number of economists who now believe that the current economic expansion - into its ninth year as of this writing - reflects something significantly more than just an unusually long up cycle in business. Indeed, there is growing belief that a fundamental paradigm shift has occurred triggering a substantial increase in business efficiency and productivity, resulting in fast growth, more goods, but stable prices.

The prime cause of this shift is debated, but many economists believe that the trigger for continued economic expansion is the influx of computer technology into the workplace. This technology influx includes the integrated networks that are now common in most businesses and the now ubiquitous use of the Internet to communicate and effect complex transactions and commerce. In today's global economy, businesses are using increasingly sophisticated software and hardware systems to manage and control their business and communicate to vendors and customers.

Planning, deploying, and evolving this influx of new technology has, however, created enormous problems within many organizations. First, the scope and variety of these advanced technological systems is staggering. For example, for personal computers, there are dozens of different vendors, selling machines with perhaps three or four different microprocessor choices. On the software side, these same personal computers can include one of several alternate operating systems, such as Windows 98 ®, Windows-NT ®, McIntosh ®, Linux ®, Unix ®, etc. In addition, a myriad of software applications are possible each with varying features and costs. Second, there is no easy method or formula for making "good" choices among the available technology options. Typical considerations that can go into making a particular technology choice include the necessary functionality, the features provided by the various technology options, compatibility issues with existing technologies, modifications and testing necessary to implement the technology in the existing technology infrastructure, and the associated revenues and costs in making a particular choice. Third, the procurement selection decision in a large organization is often in the hands of several individuals who may have little or no information or any access to obtain information about the technology choices of other individuals and the knowledge that may have been gained from such choices. Finally, even after a given technology choice is selected, many complex follow-up decisions remain such as how to implement the technology choice so that it will be compatible and work well with the existing technology infrastructure and how to evolve the technology choice so it continues to meet the organization's requirements.

Ultimately, without a comprehensive system and method for planning, deploying and evolving the technology choices across an entire organization, the end result is often the following: (1) little or no standard technology choices are made across the enterprise, (2) duplicative costs are incurred with respect to selecting, configuring, and deploying technology elements, (3) integration and compatibility problems occur throughout the organization as various technology choices are integrated with the existing technology infrastructure and (4) no

obsolescence or evolution planning is done to insure that the technology choice continues to meet the objectives of the users and the organization.

Presently, there are no commercial systems available for planning, deploying, and evolving the technology infrastructure for a large multi-disciplined organization. The current tools such as spreadsheets and generic project planning software are ill equipped to address the complexities associated with technology planning. It was with this understanding of the problems of the prior art that formed the impetus for the present invention.

OBJECTS AND SUMMARY OF THE PRESENT INVENTION

It is therefore an object of the present invention to provide a system for planning, deploying, and evolving the computer and information system technology infrastructure for a large multi-disciplined organization.

It is another object of the present invention to provide a data processing system integrated into a communication network to facilitate operation of a system and method for planning, deploying, and evolving technology infrastructure.

It is a further object of the present invention to provide a methodology for defining, organizing and indexing technology infrastructure data for an organization.

It is a further object of the present invention to organize the technology infrastructure elements into the specific hardware, software, product or services tracked by the system referred to as 'Components', an alignment of components into a logical group referred to as a 'Stream', and an aggregation of Streams referred to as 'Infrastructure Categories'.

It is a further object of the present invention to provide a visual display of an organization's entire technology infrastructure (referred to as a 'Map') with easy to follow links to the details of all the individual elements of the technology infrastructure.

It is a further object of the present invention to delineate technologies proposed for adoption so as to provide critical planning and implementation data related to introducing that Component into operation within the enterprise.

It is a further object of the present invention to manage and track technology dependencies for the purpose of planning the introduction of new technologies and evolving existing technologies.

It is a further object of the present invention to provide a system for tracking the process of technology planning within a large multi-disciplined organization.

The above and other objects of the present invention are realized in a network based computer system and method, which facilitates the planning, deployment, management and evolution of new and existing technologies in a large multi-disciplined organization. The computer system includes plural remote terminals in communication with a central database. A programmed database interface tool called the Roadmap Program is configured to enable the users to define the technology infrastructure details for the entire enterprise according to the methodology of the invention. The infrastructure for the system is segmented into a plurality of clearly defined Components, each with an owner, a defined scope and a three year rolling strategic plan. The central database is a repository for information of each Component, and is accessible by the owner of the Component and others as delineated by system access levels.

In accordance with the varying features of the present invention, the computer system organizes the technology infrastructure Components into an overall technology Roadmap. When decisions need to be made with respect to planning new technology or evolving existing technology, the Roadmap Program provides the necessary planning data for making these decisions such as the standard technology platforms being supported by the organization and the dependencies on other components. When new Components and/or new technology projects are registered, they are integrated into the Roadmap and indexed with existing Components so future technology decisions will have a

complete and accurate picture of the technology infrastructure.

The Roadmap program contains screens conforming to a web structure, which display the technology infrastructure details. The Roadmap program permits strategic Map information to be displayed at a high level or a detailed Component level. For each Component, a rolling three year plan is generated dynamically by the Map tool with milestones defined based on user entered data.

The foregoing features of the present invention are more readily understood when presented in the context of a specific illustrative example thereof described in detail hereinbelow in conjunction with the following figures.

BRIEF DESCRIPTION OF THE FIGURES

Figure 1 is a block diagram of an illustrative Intranet based network for implementing the present invention.

Figure 2 is a process flow diagram identifying the steps involved in developing and loading the technology infrastructure data maintained in the central database.

Figure 3 is a sample template for entering the Component Attributes.

Figure 4 is an example Component Attribute template for a Streaming Services Component with all the appropriate information entered.

Figure 5 is a sample template for entering the Component Details.

Figure 6 is an example Component Details template for a Streaming Services Component with all the appropriate information entered.

Figure 7 is a sample template for entering the Product Details for a Component.

Figure 8 is an example Products Details template for a Streaming Services Component with all the appropriate information entered.

Figure 9 is a sample template for entering the Standards, Directives and Guidelines for a Component.

Figure 10 is an example Standards, Directives and Guidelines template for a Streaming Services Component with all the appropriate information entered.

Figure 11 is a sample template for entering the Project Details for a Component.

Figure 12 is an example Projects Details template for a Streaming Services Component with all the appropriate information entered.

Figure 13 is a sample template for entering the detailed three-year plan for a Component.

Figure 14 is an example three-year plan template for a Streaming Services Component with the appropriate information entered.

Figure 15 is a sample screen depicting the screen whereby a User selects the Infrastructure Category Map to be displayed.

Figure 16 is a sample screen display for the Map view of the present invention in Description Mode.

Figure 17 is a flow chart showing the options that a User can select from the Map View of the present invention.

Figure 18 is a sample screen display of the Map view of the present invention in Owner Mode.

Figure 19 is a sample screen display of the Map view of the present invention when a Component is clicked with the Depends On tool selected.

Figure 20 is a sample screen display of the Map view of the present invention when a Component is clicked with the Required By tool selected.

Figure 21 is a sample screen display of the Map view of the present invention when the Overview tool is selected.

Figure 22 is a sample screen display of the Map view of the present invention when the Help tool is selected.

Figure 23 is a sample screen display of the Component view of the present invention for a particular Component of the technology infrastructure.

Figure 24 is a flow chart showing the options a User can select from the Component view using the tool bar.

Figure 25 is a sample screen display of the Component view of the present invention when a User selects the Scope and Definition Tool.

Figure 26 is a sample screen display of the Component view of the present invention when a User selects the Standards tool.

Figure 27 is a sample screen display of the Component view of the present invention when a User selects the Products tool.

Figure 28 is a sample screen display of the Component view of the present invention when a User selects the Projects tool.

Figure 29 is a sample screen display of the Component view of the present invention for a Stream when a User selects the Three-Year Plan tool.

Figure 30 is a sample screen display of the new browser window when a User clicks on the 'red diamond' representing a milestone within a Component's three-year plan.

DETAILED DESCRIPTION OF THE INVENTION

Overview of the Invention

Discussing the present invention first briefly in overview, the technology infrastructure data is maintained in a central database. A network based software tool called the "Roadmap Program" defines, organizes, and indexes the technology infrastructure data based on a defined methodology and select user inputs.

The central database maintains the technology infrastructure details at three levels of aggregation: the Component level, the Stream level, and an Infrastructure Category level. A Component is the basic building block of the technology infrastructure. Each type of hardware, software, product or service tracked by the system is defined as a Component. An example of a Component would be a "Workstation". The details maintained on each Component include the owner of the Component within the enterprise, the defined scope of the Component, projects registered with respect to the Component, dependencies

with other Components, and a three-year strategic plan for the Component. A "Stream" is an alignment of Components into a logical group. For example, a Workstation Component might be aligned to a "Hardware" Stream. All Components in the central database are aligned under a particular Stream. Finally, each Stream in the database is aggregated into an Infrastructure Category, which is simply a logical group of Streams. The technology infrastructure details are identified and defined through a specific methodology, are entered into various templates provided by the Roadmap program, and loaded into the database through macros which extract the data from the templates and load it into the database.

The Roadmap Program provides a web-based interface and supports various web-based tools, which permit a User, depending on appropriate security access, to interact with the technology infrastructure details maintained in the central database. For a view of the entire technology infrastructure, a User can select the "Map" view of the program, which will display all the Components and Streams of the technology infrastructure, the dependencies between various Components, and other features as will be discussed in more detail below. A User seeking further details can select the "Component" view of the Roadmap program to see the details and planning information maintained on each Component.

The Roadmap System

Referring now to Figure 1, a network-based system is shown, which provides user access to the system through various workstations and a data network. For illustrative purposes only, the data network is shown as a corporate Intranet. The invention could be implemented by the Internet or other means of linking users to the Roadmap program. The illustrative network consists of multiple workstations (100,101, 102, 103 & 104), which are interconnected to the server where the Roadmap program resides (112) either directly through a communication line or through various servers (110 & 111) and the Intranet

(120). The Roadmap program serves as the interface between a plurality of Users and a central database that maintains the technology infrastructure data. In this implementation of the invention, the database resides on a separate server.

Although varying hardware and software combinations could be used, the server where the Roadmap program resides in this implementation is a Compaq 6500, with dual 200 Mhz Pentium processors, 512 megabytes of RAM, and more than 10 gigabytes of disk space. The operating software for the server includes Microsoft NT Server 4.0, SP4, Microsoft IIS 4.0, Microsoft MDAC 2.0, SP2, a Web Browser (Internet Explorer 4.0 or greater or Netscape Communicator 4.06 or greater), and Microsoft Word 97. The SQL Server where the data is maintained is a Compaq 850, with a 200MHz Pentium processor, 256 Mb of RAM, and 4 Gb of disk space. The software on the SQL server includes Microsoft SQL Server 6.5, SP5, Microsoft InterDev 6.0, SP3, Adobe Photoshop 5.0, and Microsoft Query.

Defining, Organizing and Indexing the Technology Infrastructure Data

Referring now to Figure 2, a process flow diagram is depicted, which identifies the steps involved in developing and loading the technology infrastructure data maintained in the central database.

The first step in this process is to identify the elements of the technology infrastructure within the organization (200), i.e., the Components (201), Streams (202), and Infrastructure Categories (203), and the Owners of the infrastructure. As noted previously, Components are the smallest building block of the infrastructure. Although varying definitions could be used, the present implementation defines a Component as any one of the following: (1) a logical element of Technology Architecture, such as 'Workstation' or 'Distributed Server'; (2) a logical element of Application Architecture, such as 'Message Services' or 'Directory Services'; (3) a Technology Service that requires a strategy, such as 'Backup/Recovery' or 'Virus Protection'; or (4) the delivery of a Technology service to a User such as 'HelpDesk'.

One further consideration in defining a Component is that a Component should be sized so that it can be managed by one person. For example, no one person at most organizations could be responsible for a Component defined as broadly as 'Operating Systems'. A person might be an expert in one operating system and have no knowledge about another operating system. Thus, in such a situation, it might be necessary to define the Components as a type of operating system (e.g. 'Unix Operating System'). Once the Components are identified, an Owner is assigned to each Component.

A Stream is a logical aggregation of Components. For example, in the operating system case, if each type of operating system is defined as a Component, the aggregation of the types of operating systems could be defined as the 'Operating System' Stream. Another example of a Stream might be a 'Hardware' Stream, which could be an aggregation of Components such as 'Displays', 'Workstations', and 'Printers'. These groupings of Components into Streams are all user-defined and can be aggregated in whatever fashion makes sense for the particular organization involved.

At a higher level of abstraction, the Infrastructure Category is a logical grouping of Streams. Again, this is a user-defined grouping, which can be made in whatever fashion makes sense for the particular organization involved. While the present implementation of the invention uses two Infrastructure Categories to group logically the technology streams and components, the invention could be implement without using this higher level of abstraction.

After the Components and Owners of the infrastructure have been identified, the next step is for the Component Owner to define the key planning attributes with respect to the Component (210). The attributes are: (1) the Scope of the Component (211), (2) the key entities in the organization that are impacted by the Component (212), and (3) the requirements for the Component (213). The Scope is used to define the elements that are within the scope and out of scope of the Component. The purpose of this is to define the boundaries of the Component. For example, with a workstation Component, an in scope definition

might be "machines designed for single user operation in normal working environment" and an out of scope definition might be "machines that provide resources for use by other computers and their users." The key entities within the organization need to be identified because they will be the source of the requirements for the component. The requirements are the functionality needed by the key entities that are impacted by the Component.

Once the planning attributes are identified, the Owner develops a strategy for the Component including a three-year plan (220), which is submitted to the Steering Committee of the organization for approval. In identifying the planning attributes and developing an approved strategy, the Owner and Steering Committee use the display capabilities of Roadmap program (discussed in more detail in the next section of the Specification) to identify any issues in the existing infrastructure (dependencies, three year plans for other components, approved platforms for certain components, etc.) which might impact defining the planning attributes and developing a strategy for the particular Component being addressed (221). The present implementation of the invention uses three years as a planning horizon. However, a different number of years might be appropriate for a planning horizon depending on the needs of a particular organization.

Once a technology element has been defined and a strategy developed, the next step is to identify and organize the additional planning data and then load the planning data into the central database through templates provided by the Roadmap program (230 & 240). The first block of data to be identified, organized and loaded is Component Attributes. The Component Attributes are: the Component Name, Description, Map Status, Project Status, Convergence Status, Dependencies, Stream Name, Owner Name, and Owner Group. A sample template for identifying and entering the Component Attributes is depicted at Figure 3. Component Name is the name as it will appear on the Roadmap. To fit within the cell displayed on the Roadmap, the name must be three words or less with each word twelve letters or less. The Description is a

less than 255 character description of the Component. The Map Status is a color code for the completeness of the information within the Roadmap: (R) or red means the data for the Component has not yet been loaded; (A) or amber means the data for the Component has been loaded but a three year plan for the Component has not yet been developed; and (G) means all data for the Component has been loaded. Project Status uses the same colors to reflect the status of any projects with respect to the Component such as, for example, a project to replace existing workstations with a new workstation having additional capabilities. A status of (G) or green means that the Project is progressing on track and any issues are being resolved without escalation. (A) or amber means that some dates have slipped but necessary steps are being taken to manage the situation. (R) or red means that there are problems occurring within the project that require senior management intervention. Convergence Status is an optional field a Component owner can use to track the status of particular goals with respect to a Component such as obtaining 70 percent penetration of a particular upgrade. In the 'Dependencies' field, a User enters the name of all Components on the Roadmap that the Component being entered is dependent upon. The 'Stream Name' field is where a User enters the name of logical group that the Component should be placed within. The 'Owner Name' field is where the name and contact telephone number for the Component owner is entered. The 'Owner Group' is the name of the group within which the Component owner works. An example template for a Streaming Services Component with all the appropriate Component attributes entered is depicted at Figure 4.

The template for loading the attributes of Streams is identical to the template for Components except that there is no one particular owner that is defined as the owner of the Stream and the logical grouping that is entered for a Stream is the Infrastructure Category rather than the Stream.

The next block of data to be defined is the Component details (232). A sample template for identifying and loading the Component Details is depicted at Figure 5. The details loaded are: the Technical Description, the Component's

Scope, the Usage and Penetration, and the Design Principles. This detail is displayable on the Component View of the Roadmap Program. The Technical Description field is a technical summary of the Component. This is a more detailed description of the Component than the description of the Component entered for the Map view of the Roadmap program. Next, the User is required to define the elements that are within the scope and out of scope of the Component. As noted previously, this information defines the boundaries of the Component. The Usage and Penetration field identifies the status of Component use at various locations and business units. The Design Principles field is where the User can enter any strategy considerations governing the planning, deployment and/or evolution of the Component within the technology infrastructure. An example Component Detail template for a Streaming Services Component with the appropriate information entered is depicted at Figure 6.

The next set of data to be identified and loaded is the Product Details (233). A sample template for identifying and entering the Product Details data is depicted at Figure 7. This template requests information regarding the various products the enterprise is using or considering for a particular Component. The fields are the Product Name, Primary Function, Support Status, and Usage information associated with the product. For each Product, Support Status is defined as one of either of the following:

Emerging	Under Evaluation No Support
Core Increasing	New strategic platform. Supported with deployment program.
Core	Established Strategic Platform Fully Supported
Core Declining	Non Strategic platform, being disinvested support declining
Specialist	Exception Platform Support available at a premium

An example Product Details template for a Streaming Services Component with the appropriate information entered is depicted at Figure 8. Links to vendors are provided where appropriate.

After the Product Details are defined, the next set of planning data to be identified and loaded is the Standards, Directives and Guidelines data (234). A sample template for entering the Standards, Directives and Guidelines data is depicted at Figure 9. With this template, the User enters the links to industry and company standards for the particular Component. An example Standards, Directives and Guidelines template for a Streaming Services Component with the appropriate information entered is depicted at Figure 10.

Finally, the Projects template is used to identify and enter Projects that have some impact or dependency on the Component (235). A sample template for entering Project Details is depicted at Figure 11. No detail or projects plans are stored, although links can be created so that a User can link to the project details from the Component View of the Technology Roadmap. An example Project Details template for a Streaming Services Component with the appropriate information entered is depicted at Figure 12.

After Component data has been entered, the User is next prompted with a template to enter the detailed three-year plan for the Component. A sample template for loading the detailed three-year plan is depicted at Figure 13. Under the event date, the User enters the key planning or milestone dates for the Component during the next three years. The document name is a link to the appropriate document, which will display the details for the particular milestone. An example three-year plan template for a Streaming Services Component with the appropriate information entered is depicted at Figure 14.

After all relevant planning data has been identified and entered on the appropriate templates, the final step of the data creation process is to load the planning data into the database (240). Although other techniques could be used, the present implementation of the invention uses Microsoft Word macros to process the templates and load the data into the database.

The above-described steps for defining, organizing, and indexing the technology infrastructure data are set out in a particular order for illustrative purposes only. The invention does not require that the steps be performed in the order in which the steps have been described.

Displaying the Technology Roadmap

When a User initiates the display features of the Roadmap program, the technology infrastructure is displayed as an overall Technology Roadmap, which is referred to as the 'Map' view of the technology infrastructure. If more than one Infrastructure Category has been defined, a User will first be displayed a screen to select the Infrastructure Category Map the User would like displayed. Figure 15 is a sample screen depicting the screen whereby a User selects the Infrastructure Category Map to be displayed. Figure 16 is a sample screen depicting the Map view for a particular Infrastructure Category. In the Map view for a particular Infrastructure Category, each Stream is displayed with the associated components listed below the Stream. For example, Figure 16 depicts various Streams such as Hardware, Market Data and Network Infrastructure that are within the Technology Architecture Infrastructure Category. In addition, under the Hardware Stream, the Map view identifies the associated Components for that Stream as Desk Top Printers, Displays, Distributed Servers, Front-End Processing, High-Speed Printers, Laptop PC's, Mainframe Server, Mid-Range Servers, Palmtops, Storage and Workstations. The invention uses color to distinguish between a Stream and a Component although other distinguishing techniques could also be used.

The display features of the Roadmap Program consist of web-based software tools that permit the User to navigate through the Technology Roadmap using a standard web browser. The program is designed to be compatible with Netscape and Internet Explorer version 4.x or higher.

From the Map view, a User has several options, which can be selected via a standard Windows style toolbar. A flow chart showing the options that a User can select from the Map view is depicted at Figure 17. First, from the Map view (300), a User can change the mode for displaying the Map view to one of three modes: (1) Description Mode (301), (2) Owner Mode (302) and (3) Status Mode (303). When the Description Mode is selected, two different colors will be used to represent Streams and Components. When the mouse is held over a Stream or Component in the Description Mode, text providing a brief description of the Stream or Component will appear. Text displayed by this method is hereinafter referred to as "tooltip text". Figure 16 shows a Map view in Description Mode. In the Owner Mode, a different color will be used to represent each owner group for the various Streams and Components. In Owner Mode, the tooltip text will identify the owner group name and contact details. Figure 18 shows a Map view in Owner Mode. Status Mode tracks how far through the process each Component is with respect to data entry. As noted previously, this status is defined as red, amber or green when the Component is loaded in the database. Upon selecting this mode, the Components will be displayed as red, amber, or green depending on the data entry status. Similarly, selecting Convergence Mode will display the Components in the appropriate color based upon the information loaded in the database.

In addition to changing the mode, the User can also use the toolbar to click on certain dependencies. When the "Depends On" tool is selected (304), clicking on a Stream or Component will highlight any Components or Streams that are depended on by the Component. Figure 19 shows a Map view when a Component is clicked with the Depends On tool selected.

Another type of dependency can be found by clicking the "Required By" tool (305). With this dependency, clicking on a Stream or Component will highlight any Components that are required by the Component. As with the Depends On tool, two different colors will be used to represent Streams and Components when the Required By tool is selected. Figure 20 shows a Map

view when a Component is clicked with the Required By tool selected.

Also from the Map view, the User can click on the Overview tool (306) or Help tool (307). When the Overview tool is selected, the Map area will present static HTML pages describing the Roadmap concept, application, and use. Figure 21 shows the Map view when the Overview Tool is selected. When the Help Tool is selected, the Map view will present answers to Frequently Asked Questions (FAQ), and give context sensitive guidelines on usage. Figure 22 shows the Map view when the Help Tool is selected.

Finally, from the Map view, when the User clicks on a Component or a Stream, the Roadmap Program will display the Component view for the Component or the Stream that is clicked (308). The only exception to this is if the Depends On or the Required By dependencies have been selected, in which case clicking a Component shows the dependencies as opposed to the Component view.

The Component view enables a User to display the details for that Component, which are maintained in the central database. Figure 23 shows a sample screen for the Component view of a particular Component. The Component view is composed of three areas: (1) an overview area, (2) an information area, and (3) a toolbar area. The overview area provides basic textual information on the selected Stream or Component. A button is provided in the overview area to return to the Map view. The information area will present information on the selected Component depending upon the tool selected. The toolbar area identifies the various tools the User can select to alter the information appearing in the information area.

When a Stream is clicked, the resultant 'Component view' of the Stream is exactly the same, except that all Components for the Stream are shown in alphabetical order arranged down the screen top to bottom. If more Components exist within the Stream than can be shown on one screen view, then the screen becomes scrollable and the User can scroll down to see other Components. With

a Stream, the toolbar functions will only show data if it has been loaded at a Stream level.

A flow chart showing the options a User can select from the Component view (400) using the toolbar is depicted at Figure 24. When the Scope and Definition tool is selected (401), the information area will present a static HTML information page, detailing the scope and definition of the Component. A sample screen showing the Component view when a User selects the Scope and Definition Tool is depicted at Figure 25. Similarly, selecting the Standards tool will present a static HTML information page (402), but with this selection the information portion will display any standards relevant to the Component including links to the appropriate intranet/internet page or document store (assuming the User has any necessary access rights). A sample screen showing the Component view when a User selects the Standards Tool is depicted at Figure 26. When the Products Tool is selected (403), the information area will present a static HTML information page, detailing the relevant products for the Component, which were loaded in the database. The displayed information includes information such as the manufacturers and the support status (Core, Emerging, etc.) of the product. A sample screen showing the Component view when a User selects the Products Tool is depicted at Figure 27. When the Projects Tool is selected (404), the information area will display a static HTML information page, detailing any projects included in the Component. A sample screen showing the Component view when a User selects the Projects Tool is depicted at Figure 28. When the General Tool is selected, the information will display a static HTML information page, detailing any other information relevant to the Component.

Selecting the Three Year Plan tool will display in the information area a data-generated calendar of events (405). If a Stream has been selected, the Component view will show the Stream and any Component members of the Stream. A sample screen showing the Component view of a Stream when the Three Year Plan tool is selected is depicted at Figure 29. If a Component is

selected, the Map will show the Component and any Components required by the Component. A sample screen showing the Component view of a Component when the Three Year Plan tool is selected is depicted at Figure 23. In the information area, Components will be arranged vertically down the page and dates will be arranged from left to right across the page and span the range specified in the database. The range of dates being displayed can be configured using two dialogue boxes. The Start Year box defaults to the current year, but can be manually over-ridden to be any future year. The Range box defaults to three years, but can be manually overridden to 2, 4 or 5 years.

The dates of any milestone events for the Component will be indicated on the calendar by a red diamond. Placing the curser over any red-diamond (or milestone) will provide the tooltip text for the milestone. If more information is available, a graphic depicting the availability of additional information will appear. Clicking on the graphic will launch a separate browser window where any additional documentation will be shown. This documentation could be in any form supported by a User's workstation. For example, the "document" could be a spreadsheet file for budget information, an HTML file for graphical representation or a text file for written material. A sample screen showing the new browser window when clicking on vertical line for a calendar event is depicted at Figure 30. The progress can be tracked for a selected Component by entering "an effective progress date" showing the progress that has been made on achieving the entered milestones. For example, if a particular milestone is schedule to be achieved in November of the Year 2000 and the milestone is two months from being completed the "effective progress date" can be entered as September 2000. This progress will appear will as a solid gray bar on the calendar.

Although the invention has been described in detail for the purpose of illustration, it is to be understood that such detail is solely for that purpose and that variations can be made therein by those skilled in the art without departing from the spirit and scope of the invention.

What is claimed is:

1. A data processing system for planning, deploying, and evolving technology infrastructure of an organization, comprising:

a server containing a database configured to maintain planning data on each of a plurality of elements of a technology infrastructure;

a data collection means for selectively entering the planning data in the database;

a program for retrieving the planning data from the database and organizing the planning data into a technology roadmap;

a display means for providing a plurality of users with a map view of the elements; and

a display means for providing links from the map view so that the users can display the planning data for each of the elements.

2. The system of claim 1, wherein the elements consist of: (a) components, (b) logical groups of components which are called streams, and (c) logical groups of streams which are called technology infrastructure categories.

3. The system of claim 2, wherein the components are defined as a logical element of the technology infrastructure, a service or set of software services that require a strategy, or a service or set of software services delivered to the users.

4. The system of claim 1, wherein the planning data maintained in the database includes: (a) an owner of the element, (b) a scope for the element, (c) dependencies on other elements, and (d) a three year plan for the element.

5. The system of claim 2, wherein the planning data entered in the database for each component includes: (a) the owner, (b) a group name within the organization to which the owner reports, (c) a description of the component, (d) a scope for the component, (e) dependencies on other components, (f) products for

the components and support status of the products, (g) a long range plan, (h) a stream to which the component is grouped, and (i) projects registered for the component.

6. The system of claim 5, wherein the map view provides a means for the user to display the description of each of the components.

7. The system of claim 5, wherein the map view provides a means for the user to display the owner group for each of the components.

8. The system of claim 5, wherein the map view provides a means for the user to display the status of the data that has been entered for each of the components.

9. The system of claim 5, wherein the map view provides a means for the user to display what components are dependent on a particular component.

10. The system of claim 5, wherein the map view provides a means for the user to display what components are required by a particular component.

11. The system of claim 5, wherein the component view provides a means for the user to display the scope and definition for each of the components.

12. The system of claim 5, wherein the component view provides a means for the user to display the relevant products and the support status for each of the components.

13. The system of claim 5, wherein the component view provides a means for the user to display the projects registered for each of the components.

14. The system of claim 5, wherein the component view provides a means for the user to display the long range plan for each of the components.

15. The system of claim 14, wherein the long range plan is three years.

16. The system of claim 14, wherein the long range plan provides a means for displaying user selected milestones entered at time intervals along the long range plan and a means for displaying any data files associated with the milestones.

17. The system of claim 1, wherein the planning data is entered on templates and loaded into the database by a macro that retrieves the data from the templates and populates the database.

18. A method for planning, deploying, and evolving technology infrastructure for an organization, which comprises the steps of:

identifying all elements of a technology infrastructure;

defining planning attributes for each of the elements;

developing a planning strategy for each of the elements;

entering in a central database the elements, planning attributes, and planning strategy and any additional data relevant to the element, which data is collectively referred to as planning data;

organizing the data into a technology roadmap;

displaying the technology roadmap as a map view of all the elements of the technology infrastructure; and

linking from the map view to display the planning data for each of the elements.

19. The method of claim 18, wherein the step of identifying all elements of a technology infrastructure further comprises the step of defining each element as: (a) a component, (b) a logical group of components which is called a stream, or

(c) a logical group of streams which is called an infrastructure category.

20. The method of claim 18, wherein the step of defining planning attributes for each of the elements further comprises the steps of: (a) determining the element's scope, (b) determining entities in the organization impacted by the element, and (c) identifying the element's functional requirements.

21. The method of claim 18, wherein the step of developing a planning strategy for each of the elements further comprises the step of displaying the map view of the technology roadmap and linking to the planning data so as to consider the impact of existing planning data on developing the planning strategy.

22. The method of claim 18, wherein the step of entering the planning data in the database further comprises the step of organizing the planning data into element attributes, product details, standards, project information, and a long range plan prior to entering the planning data in the database.

23. The method of claim 22, comprising the further step of organizing the element attributes into: name, description, project status, dependencies on other elements, element owner, and the owner group within the organization prior to entering the element attributes in the database.

24. The method of claim 21, comprising the further step of organizing the product detail data for the plurality of elements into: product name, product description, product support status prior to entering the product detail data in the database.

25. The method of claim 22, comprising the further step of organizing the standards data into a set of links to industry and company standards for each of a plurality of elements prior to entering the standards data in the database

26. The method of claim 22, comprising the further step of organizing the project information data so as to identify for each of a plurality of elements the projects that may have some impact or dependency on the respective element.

27. The method of claim 22, comprising the further step of organizing the long range plan into a three year plan with milestones over the three year period and links to documentation describing the milestones prior to entering the long range plan data in the database.

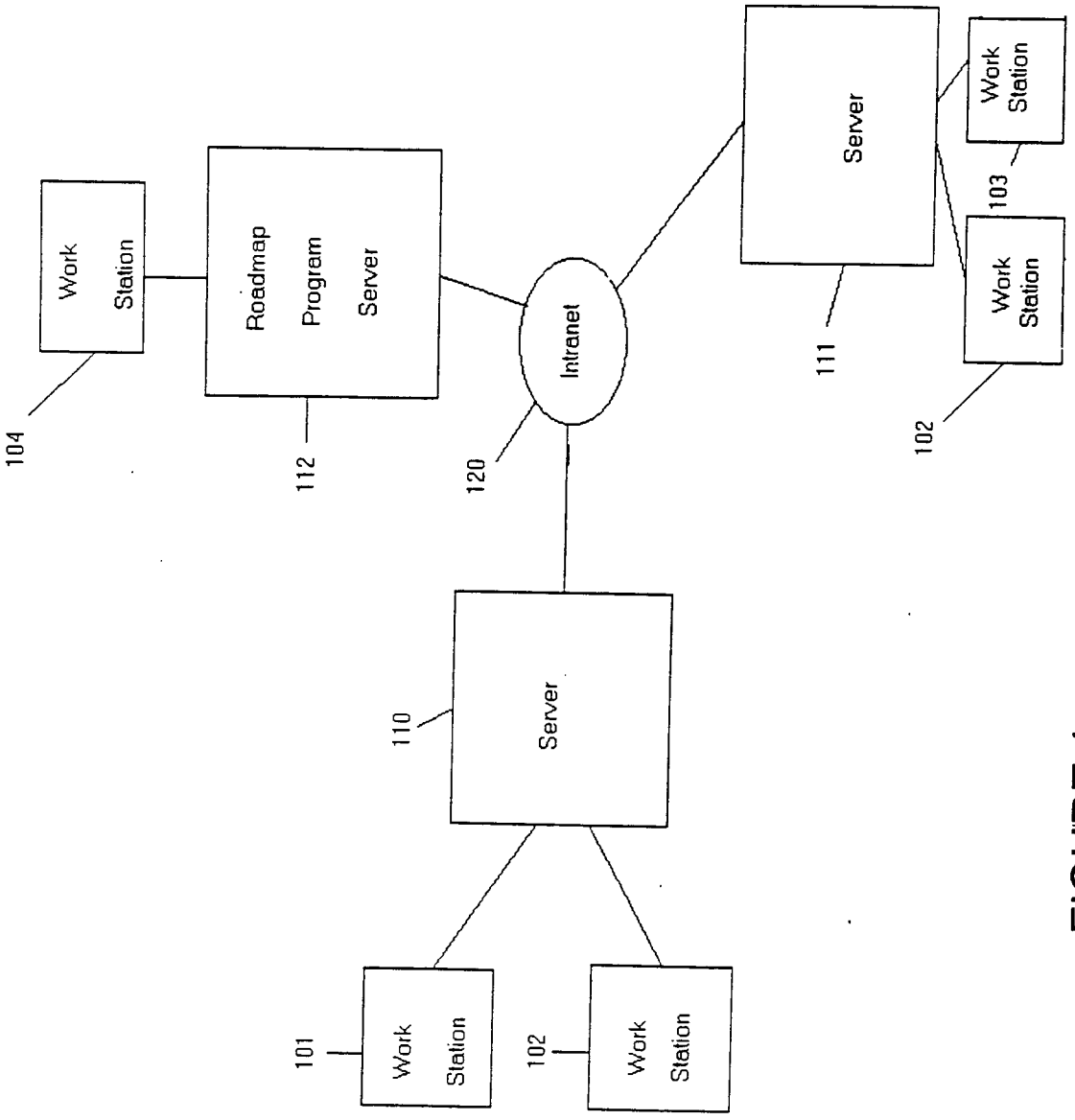

Work Station
Roadmap Program Server
Intranet
Server
Work Station
Work Station
Server
Work Station
Work Station
104
112
120
111
103
102
110
101
102

FIGURE 1

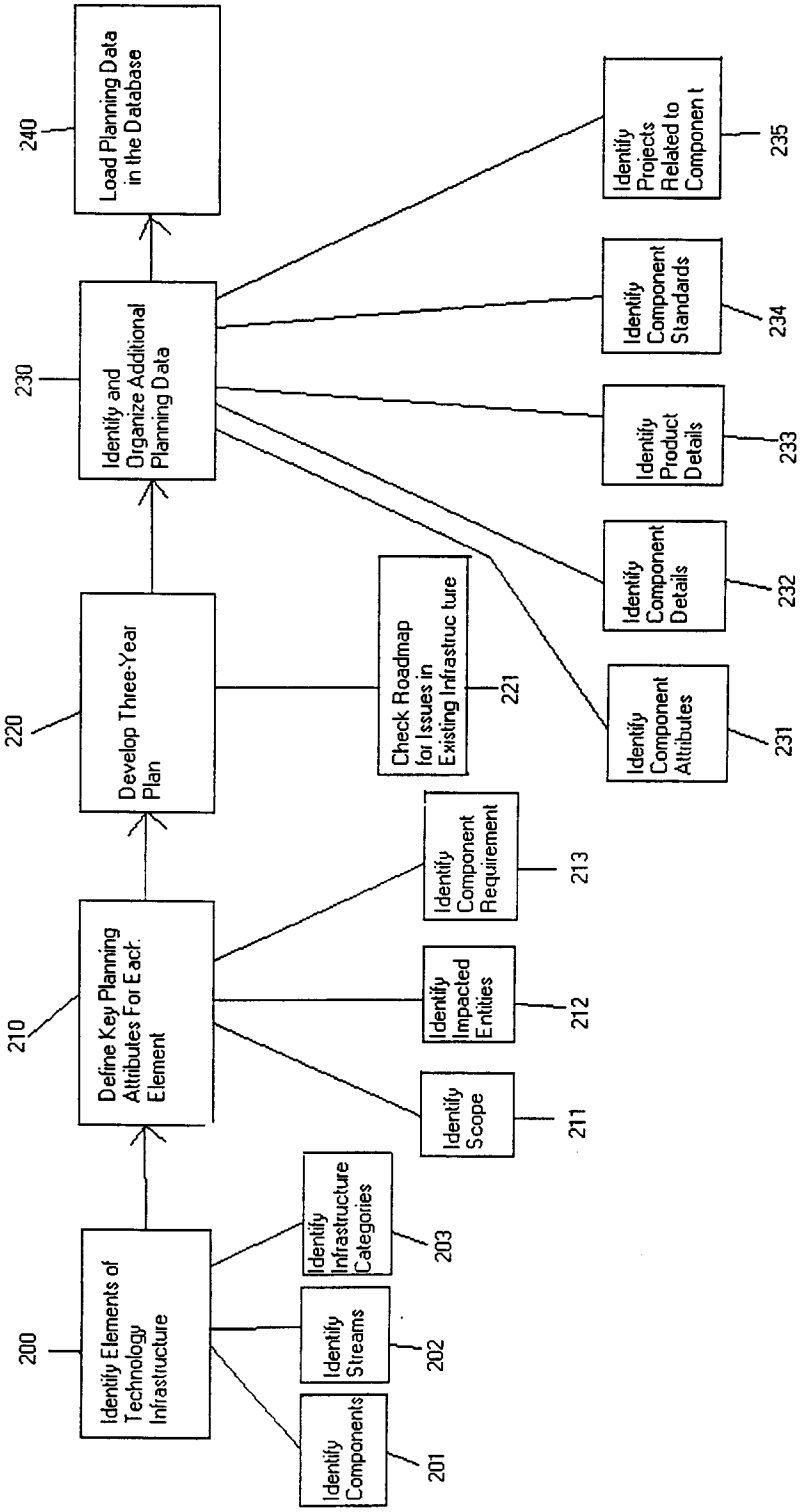

Identify Elements of Technology Infrastructure
200
Identify Components
201
Identify Streams
202
Identify Infrastructure Categories
203
Define Key Planning Attributes For Each Element
210
Identify Scope
211
Identify Impacted Entities
212
Identify Component Requirement
213
Develop Three-Year Plan
220
Check Roadmap for Issues in Existing Infrastructure
221
Identify and Organize Additional Planning Data
230
Identify Component Attributes
231
Identify Component Details
232
Identify Product Details
233
Identify Component Standards
234
Identify Projects Related to Component
235
Load Planning Data in the Database
240

FIGURE 2



MLEMEA ETS Technology Roadmap

Component Pack

3 Database Attributes

3.1 Introduction

This section provides details regarding the information required to populate the database that is used to generate the strategic map web page. You should complete each of the entries within the table as comprehensively as possible. The attributes marked with a gray shading are optional but all other entries are required.

3.2 Component attribute form

Attribute Name	Value	Notes:
Component attributes		
Component Name		This will be the name shown on the map. To fit within the cell the name must be three words or less with each word twelve letters of less.
Description		This must be a short description – less than 255 characters. The description will be used for the "pop out" text and in the component view as a permanent part of the page.
Map Status	A	The code R=red, A=amber, G=green will be used to reflect the state of completeness of the information within the roadmap.
Project Status	G	The code will reflect the overall status of any projects within the component. The use of numbers for this entry allows flexibility of other systems. The MLEMEA Roadmap will use it to reflect the RAG report status.
Convergence Status	0	The use of this field is to be defined and should be left blank at the present time.
Dependencies		List the names of all components on the map that your component is dependent upon.
Stream Name		This will be the stream within which this component should be placed.
Owner attributes		
Owner name		This should be the name and contact telephone number for the component owner.
Owner Group		This should be the name of the group within which the component owner works

FIGURE 3



MLEMEA ETS Technology Roadmap

Component Pack

3 Database Attributes

3.1 Introduction

This section provides details regarding the information required to populate the database that is used to generate the strategic map web page. You should complete each of the entries within the table as comprehensively as possible. The attributes marked with a gray shading are optional but all other entries are required.

3.2 Component attribute form

Attribute Name	Value	Notes:
Component attributes		
Component Name	Streaming Services	This will be the name shown on the map. To fit within the cell the name must be three words or less with each word twelve letters of less.
Description	Streaming is the process of transferring continuous, one-way, time-sensitive data in real-time. Streaming may be used to deliver audio, video, and/or other real-time content across the Internet or within enterprise networks	This must be a short description – less than 255 characters. The description will be used for the "pop out" text and in the component view as a permanent part of the page.
Map Status	A	The code R=red, A=amber, G=green will be used to reflect the state of completeness of the information within the roadmap.
Project Status	G	The code will reflect the overall status of any projects within the component. The use of numbers for this entry allows flexibility of other systems. The MLEMEA Roadmap will use it to reflect the RAG report status.
Convergence Status	0	The use of this field is to be defined and should be left blank at the present time.
Dependencies	Audio/Video Conferencing, Web Delivery Services, Web Browser Services, Windows OS, UNIX OS, Desktop Standard Builds, Standard Desktop Applications, Intranet Design and Consultancy	List the names of all components on the map that your component is dependent upon.
Stream Name	Communication Services	This will be the stream within which this component should be placed.
Owner attributes		
Owner name	Marc Lagadec	This should be the name and contact telephone number for the component owner.
Owner Group	Engineering	This should be the name of the group within which the component owner works

FIGURE 4



MLEMEA ETS Technology Roadmap

Component Pack

7 Component Information

7.1 Definition of Component

A detailed 'paragraph' giving a technical summary of the Component. This should be more detailed than the description used within the Technology Roadmap tool (which is restricted to 255 characters).

7.1.1 In Scope

Specify elements that are in scope

7.1.2 Out of Scope

Specify elements that are out of scope

7.2 Usage and Penetration

Geographically

Delete locations as applicable

London
Paris
Frankfurt
Zurich
Milan
Madrid
Johannesburg
Dublin

Business

Specify specific business units if appropriate.

7.3 Design Principles

To be identified.

FIGURE 5



MLEMEA ETS Technology Roadmap

Component Pack

7 Component Information

7.1 Definition of Component

Streaming is the process of transferring continuous, one-way, time-sensitive data in real-time. Streaming may be used to deliver audio, video, and/or other real-time content across the Internet or within enterprise networks.

Streaming Services represent the ability to capture/compress and distribute real time multi-media information such as audio, video, graphics and presentations using point to point or point-to-multi-point distribution using the data network. The technology will not assist in the creation of multi-media content but only its delivery once it has been generated.

Streaming Services includes the capture/compression, management, publication, delivery and decompression of multi-media content. In addition to the creation of a new service it will also define program interfaces to enable new internally developed applications to take advantage the new service.

Scope:

- Delivery to MS Windows and UNIX clients.
- Capture/Compression - definition of hardware and software to be used and process to follow to capture media content depending on type and delivery channel. This will include programming interfaces that can be used for internal ML applications.
- Management - System to administer connections, provide concurrent connection/loading management, provide security management, logging and reporting.
- Publication - standardised mechanisms to publish media context to make it accessible to via the Internet.
- Delivery - point-to-point and point-to-multi-point delivery over IP data networks.
- Decompression and presentation - client applications to decompress and present the media content to the user. This will include programming interfaces to be used in ML internal applications.

7.1.1 Out of Scope

- All other forms of streaming file transfer other than multi-media are not in scope.

FIGURE 6A



- The creation of multi-media content is out of scope.
- Client side application delivery and management is out of scope.
- Application development using streaming technologies is out of scope, this is the responsibility of the relevant development group.
- Network management is out of scope though bandwidth management using the server software is in scope.

7.2 Usage and Penetration

Geographically
London - central management and distribution point.
Paris – client access
Frankfurt – client access
Zurich – client access
Milan – client access
Madrid – client access
Johannesburg– client access
Dublin – client access

Business
Potentially all, will vary according to material being published. The expectation is that Research will be an early adopter.

7.3 Design Principles

- The solution will be based upon Microsoft technology where possible.
- The initial solutions shall be low cost to determine potential of the technology.
- The solution shall be simple in design and will require the minimal support/training overhead.
- The solution shall make efficient use of network bandwidth.
- The solution shall require the least amount of client side technology possible.
- The solution shall aim to minimise the use of hardware on the client side.

FIGURE 6B



MLEMEA ETS Technology Roadmap

Component Pack

8 Products Detail

Products	Primary Function(s)	Support Status:*	Units	Offices
Product goes here	➢ Bulleted description of primary functions	Choose one:- EMERGING CORE CORE DECLINING SPECIALIST	?	?
Next Product	➢ Bulleted description of primary functions	Choose one :- EMERGING CORE CORE DECLINING SPECIALIST	?	?

*** Support Status Key**

EMERGING	Under Evaluation	No Support
CORE INCREASING	New strategic platform.	Supported with deployment program
CORE	Established Strategic Platform	Fully Supported
CORE DECLINING	Non-strategic platform, being dis-invested	Support declining
SPECIALIST	Exception Platform	Support available at a premium

FIGURE 7



MLEMEA ETS Technology Roadmap

Component Pack

8 Products Detail

Product	Primary Function(s)	Support Status *	Units	Offices
MS Netshow	➢ Compression of content ➢ Distribution of content ➢ Management of content	CORE INCREASING	2	Rop/Far
Real Audio	➢ Compression of content ➢ Distribution of content ➢ Management of content	EMERGING	0	

*** Support Status Key**

EMERGING	Under Evaluation	No Support
CORE INCREASING	New strategic platform.	Supported with deployment program
CORE	Established Strategic Platform	Fully Supported
CORE DECLINING	Non-strategic platform, being dis-invested	Support declining
SPECIALIST	Exception Platform	Support available at a premium

FIGURE 8



MLEMEA ETS Technology Roadmap

Component Pack

9 Standards, Directives and Guidelines

9.1 Industry

Description	URL

9.2 Merrill Lynch

Description	URL

9.3 De-facto

Description	URL

9.4 Local or Regional

FIGURE 9



MLEMEA ETS Technology Roadmap

Component Pack

9 Standards, Directives and Guidelines

9.1 Industry

Description	URL
NetShow	www.microsoft.com
NetTheatre	www.microsoft.com
Real Audio	www.real.com
Asx,asf,MPEG 1,2, 3, wav, avi, rau, etc.	Various file formats

9.2 Merrill Lynch

Description	URL
none	

9.3 De-facto

Description	URL
none	

9.4 Local or Regional

none

FIGURE 10



MLEMEA ETS Technology Roadmap

Component Pack

10 Projects

FIGURE 11



MLEMEA ETS Technology Roadmap

Component Pack

10 Projects

13	Productionisation of V5.0 Realmedia
26	New Standard desktop release for Windows NT 4
17	Evaluation of Netmedia product

FIGURE 12



MLEMEA ETS Technology Roadmap

Component Pack

4 Detailed Three Year Plan

The three year plan 'view' is created dynamically by the map tool. In order to define the waypoints on the three year plan the table below must be completed. The dates are used to create the waypoint events on the three year time line and the document name is used to create the link so that when a user clicks on the event the appropriate document is displayed. To present a high level view, a simple three-slide presentation is required. The template for this is included as part of the "required documentation" section however it should have been created prior to the detailed view.

Event Date. (mm/yyyy)	Document Name

FIGURE 13



MLEMEA ETS Technology Roadmap

Component Pack

4 Detailed Three Year Plan

The three year plan 'view' is created dynamically by the map tool. In order to define the waypoints on the three year plan the table below must be completed. The dates are used to create the waypoint events on the three year time line and the document name is used to create the link so that when a user clicks on the event the appropriate document is displayed. To present a high level view, a simple three-slide presentation is required. The template for this is included as part of the "required documentation" section however it should have been created prior to the detailed view.

Event Date. (mm/yyyy)	Document Name
08/1999	V5.0 Realmedia live in Ropemaker Campus
09/1999	V5.0 Realmedia live in Farrington Campus
09/1999	V5.0 Realmedia live in all UK satellite offices
10/1999	Mandatory review point for New Building
11/1999	V5.2 Beta testing begins
02/2000	Evaluation of Netmedia's streaming video application
03/2000	Decision re: Product for new building
05/2000	Microsoft Streaming Services product schedule expected

FIGURE 14

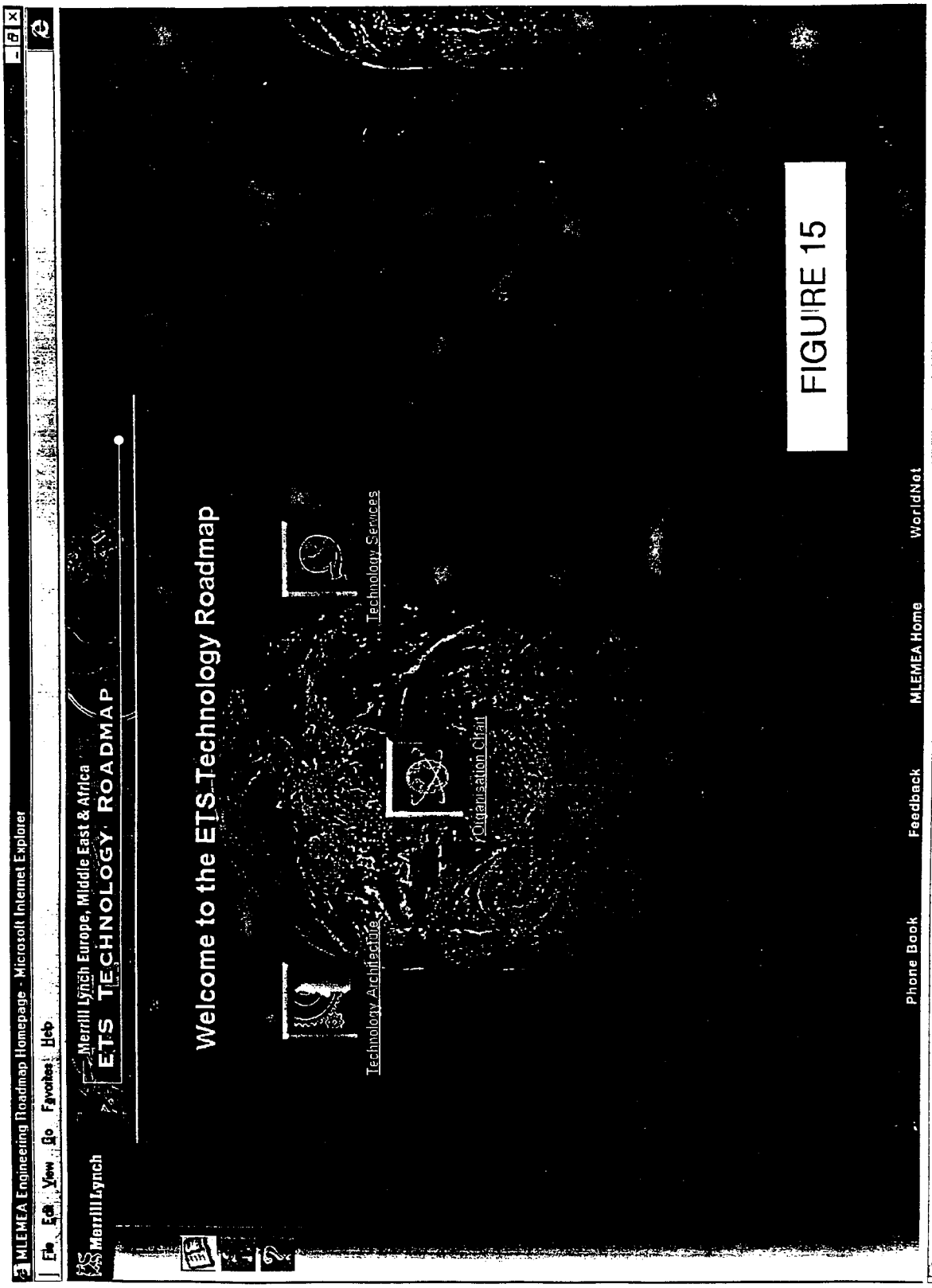

MLEMEA Engineering Roadmap Homepage - Microsoft Internet Explorer
File Edit View Go Favorites Help
Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
Welcome to the ETS Technology Roadmap
Technology Architecture
Technology Services
Organisation Chart
Phone Book
Feedback
MLEMEA Home
WorldNet
Start
Distiller Assistant 3.01
Inbox - Microsoft Ou...
Synchronization (2)...
Synchronization.srp ...
RE: Reviewed Draft...
Microsoft Word
MLEMEA Engin...
Local intranet zone
9:48 AM

FIGURE 15

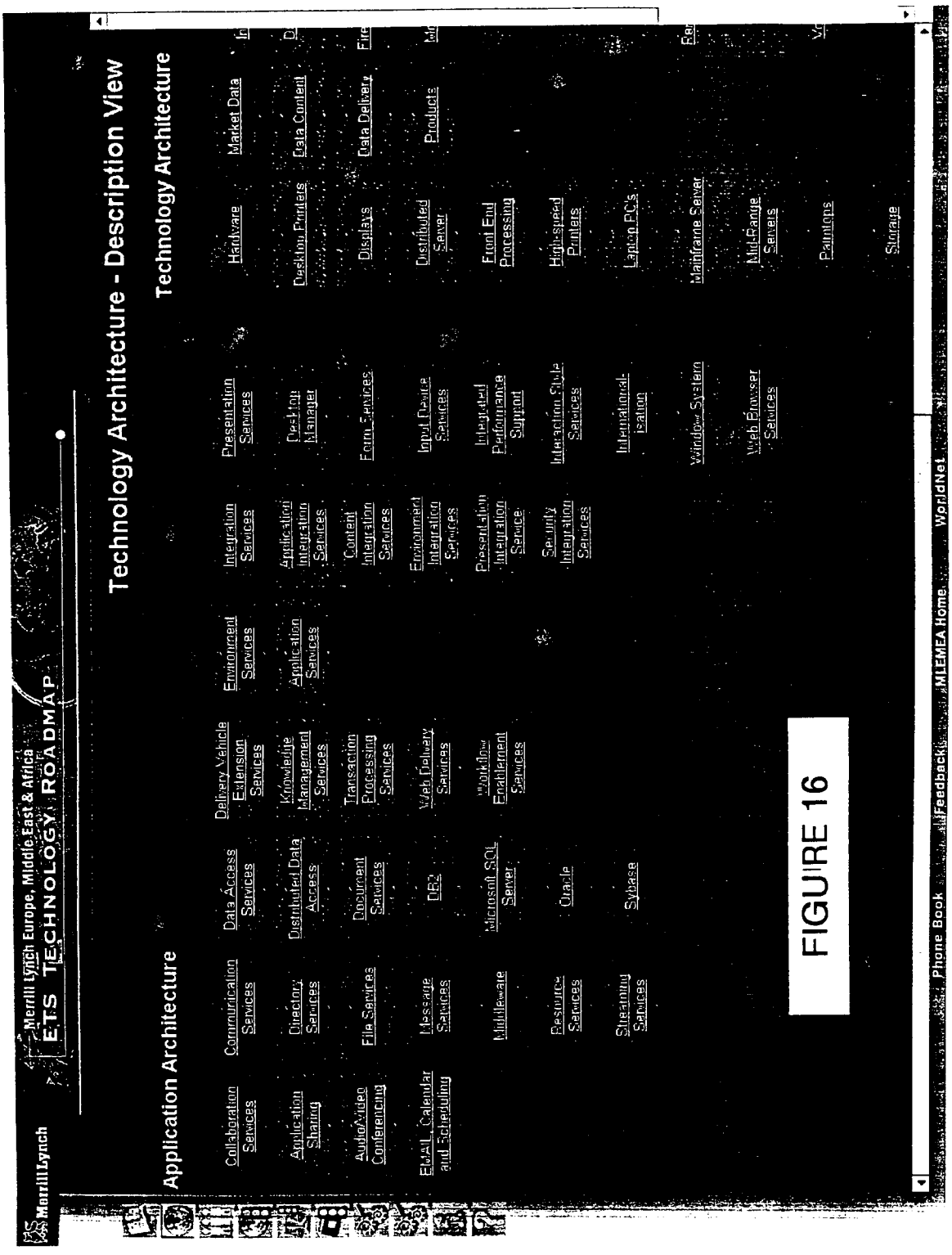

Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
Technology Architecture - Description View
Application Architecture
Technology Architecture
Collaboration Services
Communication Services
Data Access Services
Delivery Vehicle Extension Services
Environment Services
Integration Services
Presentation Services
Hardware
Market Data
Application Sharing
Directory Services
Distributed Data Access
Knowledge Management Services
Application Services
Application Integration Services
Desktop Manager
Desktop Printers
Data Content
Audio/Video Conferencing
File Services
Document Services
Transaction Processing Services
Content Integration Services
Form Services
Displays
Data Delivery
Email, Calendar and Scheduling
Message Services
DB2
Web Delivery Services
Environment Integration Services
Input Device Services
Distributed Server
Products
Middleware
Microsoft SQL Server
Workflow Enablement Services
Presentation Integration Service
Integrated Performance Support
Front End Processing
Resource Services
Oracle
Security Integration Services
Interaction Style Services
High-speed Printers
Shareware Services
Sybase
Internationalization
Laptop PCs
Window System
Mainframe Server
Web Browser Services
Mid-Range Servers
Palmtops
Storage
Phone Book
Feedback
MLEMEA Home
WorldNet

FIGURE 16

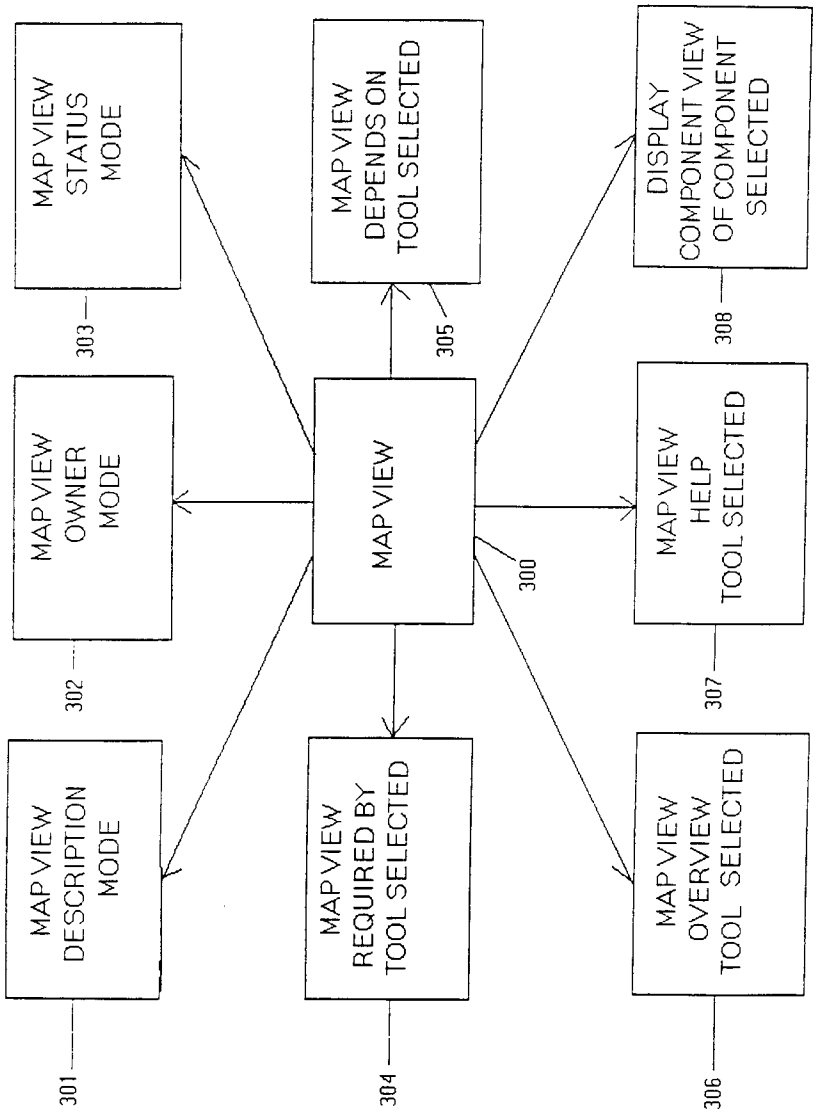

MAP VIEW
MAP VIEW STATUS MODE
MAP VIEW DEPENDS ON TOOL SELECTED
DISPLAY COMPONENT VIEW OF COMPONENT SELECTED
MAP VIEW OWNER MODE
MAP VIEW HELP TOOL SELECTED
MAP VIEW DESCRIPTION MODE
MAP VIEW REQUIRED BY TOOL SELECTED
MAP VIEW OVERVIEW TOOL SELECTED
300
301
302
303
304
305
306
307
308

FIGURE 17

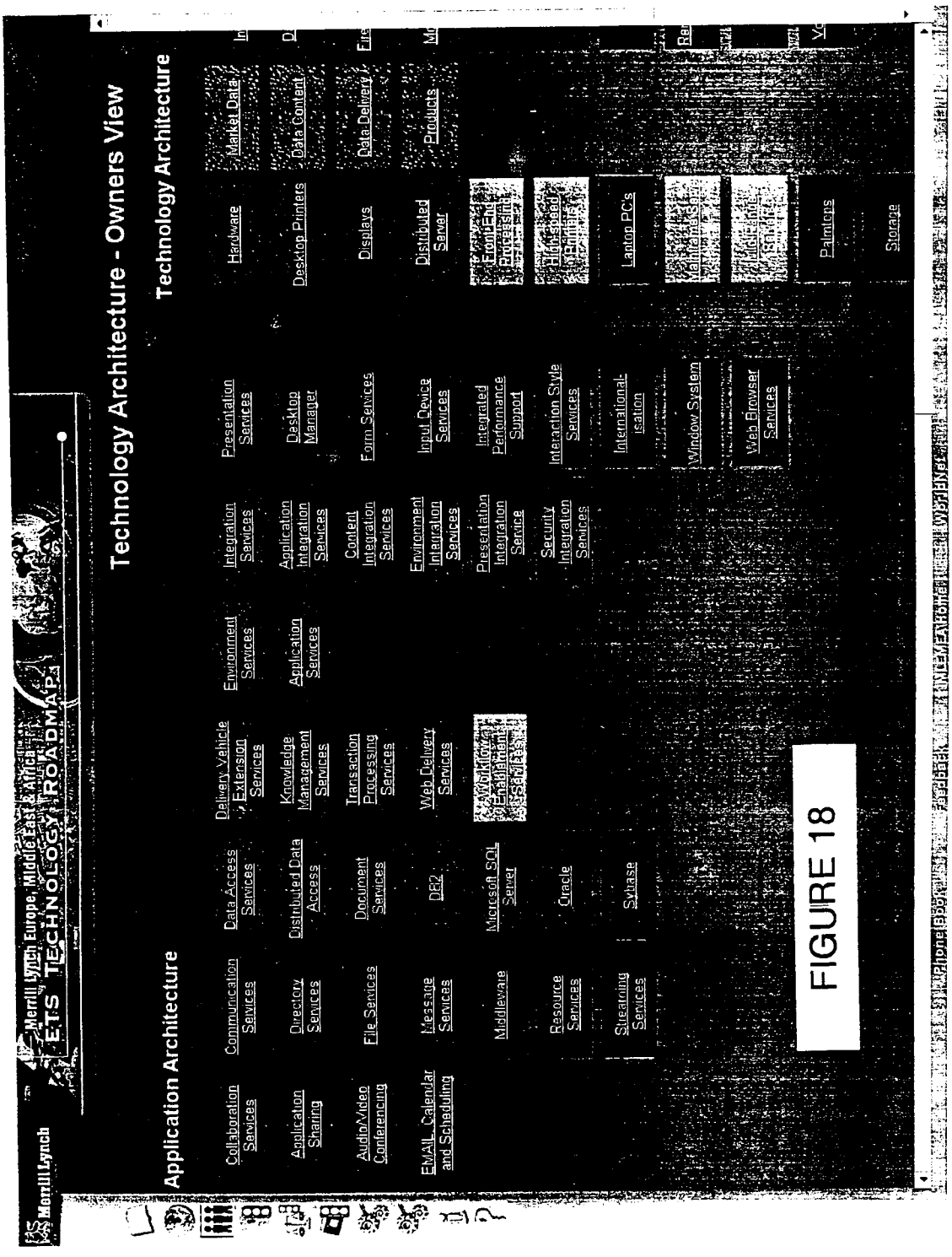

Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAPS
Technology Architecture - Owners View
Technology Architecture
Application Architecture
Collaboration Services
Application Sharing
Audio/Video Conferencing
EMAIL, Calendar and Scheduling
Communication Services
Directory Services
File Services
Message Services
Middleware
Resource Services
Streaming Services
Data Access Services
Distributed Data Access
Document Services
DB2
Microsoft SQL Server
Oracle
Sybase
Delivery Vehicle Extension Services
Knowledge Management Services
Transaction Processing Services
Web Delivery Services
Workflow / Collaboration Services
Environment Services
Application Services
Integration Services
Application Integration Services
Content Integration Services
Environment Integration Services
Presentation Integration Service
Security Integration Services
Presentation Services
Desktop Manager
Form Services
Input Device Services
Integrated Performance Support
Interaction Style Services
Internationalisation
Window System
Web Browser Services
Hardware
Desktop Printers
Displays
Distributed Server
Enterprise Processing
High-Speed Printers
Laptop PCs
Mainframe/SC
Mini/Network Server
Palmtops
Storage
Market Data
Data Content
Data Delivery
Products

FIGURE 18

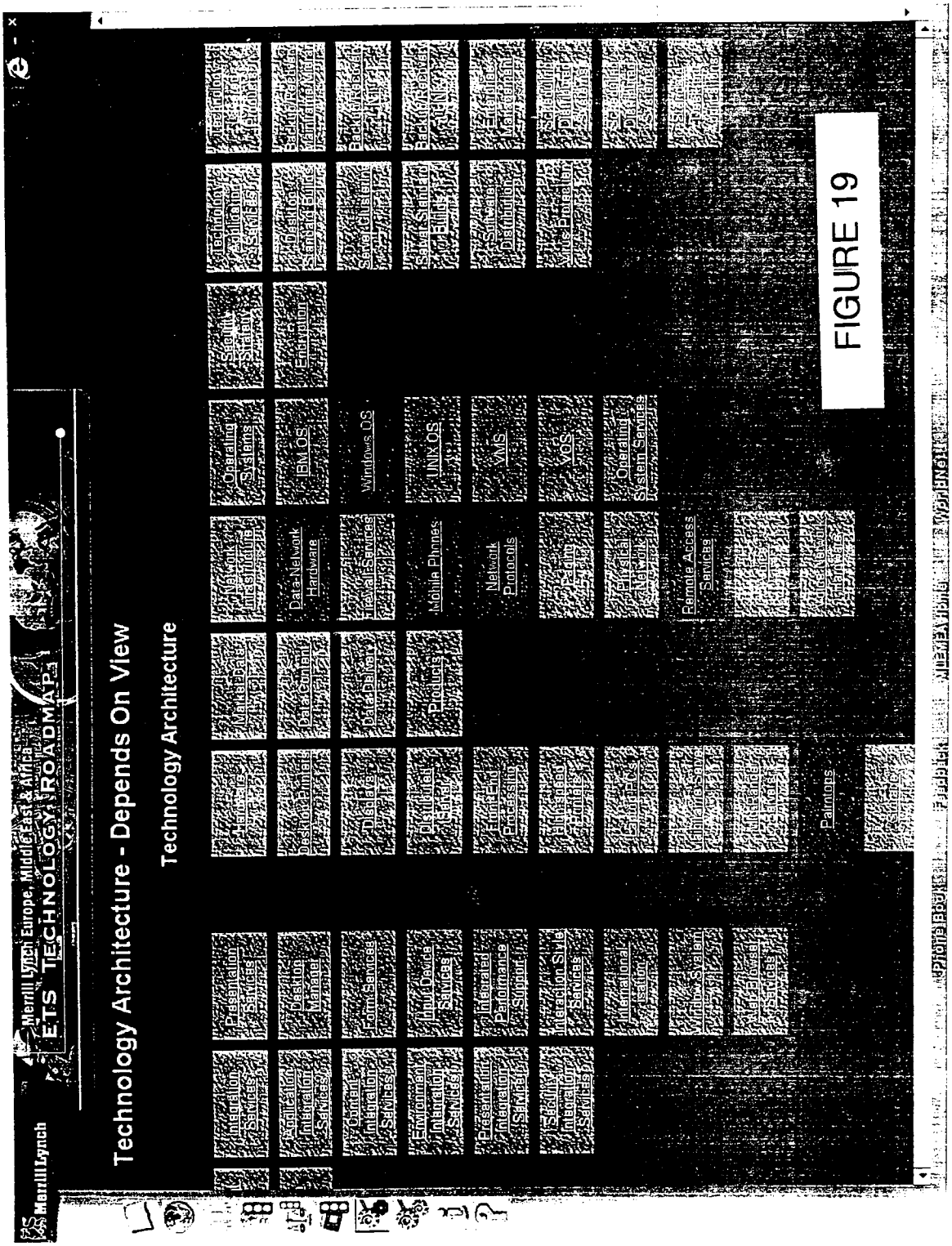
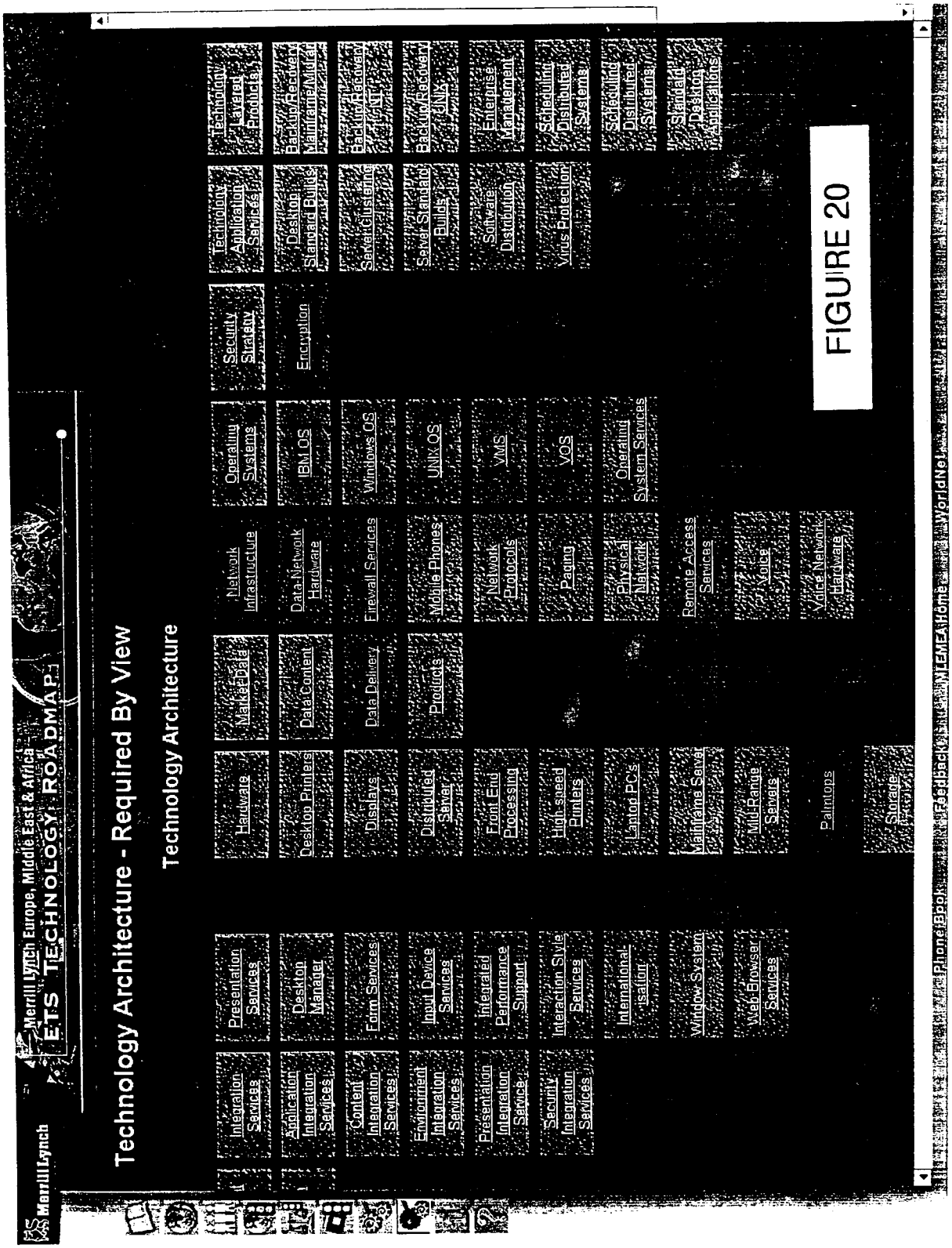

Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
Technology Architecture - Depends On View
Technology Architecture
Operating Systems
IBM OS
Windows OS
UNIX OS
VMS
VOS
Data Network Hardware
Mobile Phones
Network Protocols
Remote Access Services
Palmtops

FIGURE 19


Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
Technology Architecture - Required By View
Technology Architecture
Integration Services
Application Integration Services
Content Integration Services
Environment Integration Services
Presentation Integration Service
Security Integration Services
Presentation Services
Desktop Manager
Form Services
Input Device Services
Integrated Performance Support
Interaction Style Services
Internationalisation
Window System
Web Browser Services
Hardware
Desktop Printers
Displays
Distributed Server
Front End Processing
High-speed Printers
Laptop PCs
Mainframe Server
Mid-Range Servers
Palmtops
Storage
Market Data
Data/Content
Data Delivery
Products
Network Infrastructure
Data-Network Hardware
Firewall Services
Mobile Phones
Network Protocols
Paging
Physical Network
Remote Access Services
Voice
Voice Network Hardware
Operating Systems
IBM OS
Windows OS
UNIX OS
VMS
VOS
Operating System Services
Security Strategy
Encryption
Technology Application Services
Desktop Standard Builds
Server Clustering
Server Standard Builds
Software Distribution
Virus Protection
Technology Layered Products
Backup/Recovery Mainframe/Midr
Backup/Recovery UNIX
Enterprise Management
Scheduling Distributed Systems
Scheduling Distributed Systems
Standard Desktop Applications
FIGURE 20

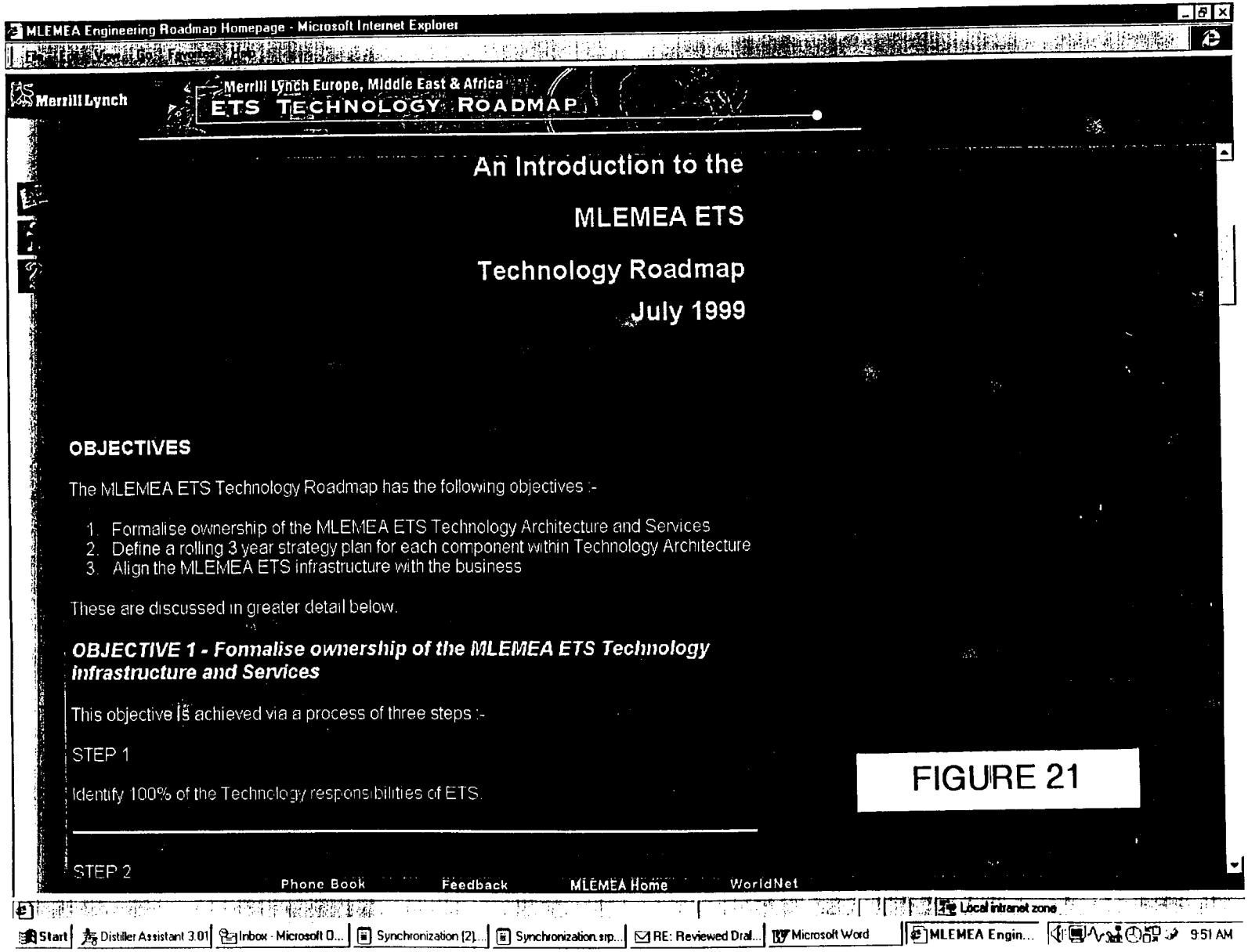

MLEMEA Engineering Roadmap Homepage - Microsoft Internet Explorer
Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
An Introduction to the
MLEMEA ETS
Technology Roadmap
July 1999
OBJECTIVES
The MLEMEA ETS Technology Roadmap has the following objectives :-
1. Formalise ownership of the MLEMEA ETS Technology Architecture and Services
2. Define a rolling 3 year strategy plan for each component within Technology Architecture
3. Align the MLEMEA ETS infrastructure with the business
These are discussed in greater detail below.
OBJECTIVE 1 - Fonnalise ownership of the MLEMEA ETS Technology infrastructure and Services
This objective is achieved via a process of three steps :-
STEP 1
Identify 100% of the Technology responsibilities of ETS.
STEP 2
Phone Book
Feedback
MLEMEA Home
WorldNet
Local intranet zone
Start
Distiller Assistant 3.01
Inbox - Microsoft O...
Synchronization (2)...
Synchronization.srp...
RE: Reviewed Drat...
Microsoft Word
MLEMEA Engin...
9:51 AM

FIGURE 21

Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
Frequently Asked Questions
Q: Is the Roadmap to be found on the Intranet?
A: Yes. The Roadmap is on the Merrill Lynch Intranet. You cannot currently access the Roadmap from outside the Merrill Lynch Network.
Q: Who do we envisage as the main users of the Roadmap?
A: We are expecting that members of both MLEMEA ETS and MLEMEA CIGT will be the primary users of the Roadmap tool
However, the Roadmap is a framework that drives the way we manage our technology strategy and organise our Technology Services. The Roadmap tool is just one element of the framework, certainly the most visible, but not the only element. Any member of the MLEMEA ETS organisation is going to be a user of the Roadmap, regardless of whether they have a need to use the intranet based tool.
Q: Would every piece of hardware be seen/recorded on the map?
A: Yes. If MLEMEA ETS is responsible for a piece of Technology infrastructure, then it will be represented on the Roadmap, either as a COMPONENT in its own right, or as an element of a larger COMPONENT.
One further point is that the Technology Architecture map view is not just about hardware, it contains any product or service where we need to set and maintain a strategy. An example would be VIRUS PROTECTION, which is not a hardware COMPONENT, but is a service dependent on a set of procedures and software tools that deliver VIRUS PROTECTION. This service needs a constantly evolving and maintained strategy.
Q: How often would we update/inform users?
A: At the moment, the Roadmap tool is passive. In that to see updates, you will need to go to the site and read current documentation. We have however logged an enhancement note, that a future version of the Roadmap tool would need to support a subscription. In this way we could encourage people to 'sign-up' to COMPONENTS or STREAMS and they would then receive an update notice as information changes.
Q: How do we hope to keep the Roadmap up to date?
A: This is without doubt a fundamental requirement of Roadmap Framework.
The attention required to be given to COMPONENT data does vary by COMPONENT. Some COMPONENTS, such as DIRECTORY SERVICES may remain static for many months at a time once a strategy is set, where as some COMPONENTS will be very active and require a great deal of attention in order to keep them current. A good example of components of this nature are STORAGE or SERVER STANDARD BUILDS. At the moment we are continuing with our Data Population phase and therefore still heading towards the point where information would only need to be maintained. It is worth emphasising that the Roadmap information database will never be completed, it will only ever be current.
The Roadmap tool also supports a mechanism for tracking progress against milestones in the strategic plan. However, this is not perfect and will be evolved in any next version of the Roadmap tool in order to provide more automated triggers to ensure data is kept current.
Q: How do we track "Cross Over"? - Role over of an
A: This is not a specific delivery of the Roadmap. However, Production Services are working on a formal PRODUCTIONISATION process and this process is already shown on the Roadmap

FIGURE 22

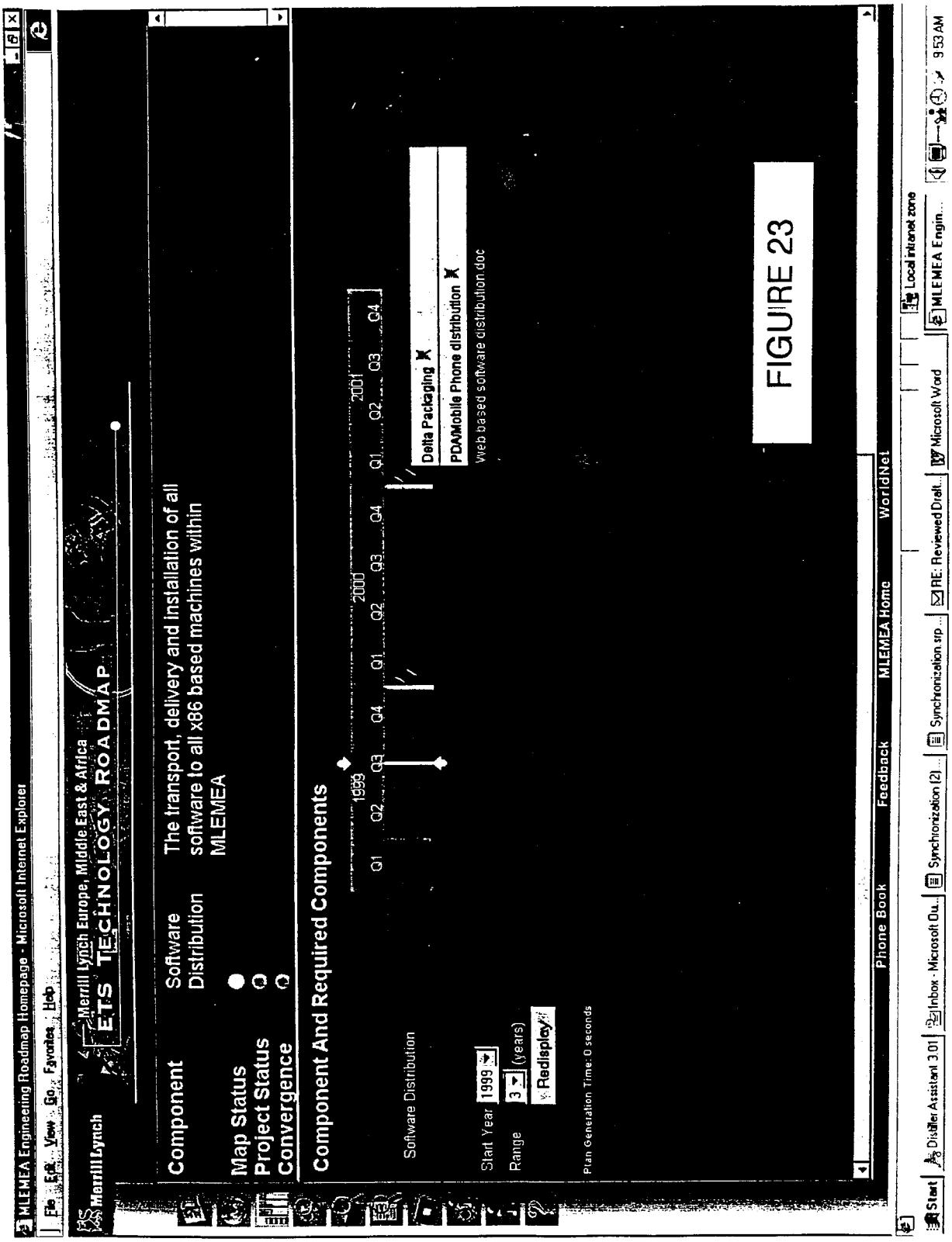

MLEMEA Engineering Roadmap Homepage - Microsoft Internet Explorer
Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
Component
Software Distribution
The transport, delivery and installation of all software to all x86 based machines within MLEMEA
Map Status
Project Status
Convergence
Component And Required Components
1999
2000
2001
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
Software Distribution
Delta Packaging
PDA/Mobile Phone distribution
Web based software distribution.doc
Start Year 1999
Range 3 (years)
Redisplay
Plan Generation Time: 0 seconds
Phone Book
Feedback
MLEMEA Home
WorldNet
Start
Distiller Assistant 3.01
Inbox - Microsoft Ou...
Synchronization (2)...
Synchronization srp...
RE: Reviewed Draft...
Microsoft Word
MLEMEA Engin...
Local intranet zone
9:53 AM

FIGURE 23

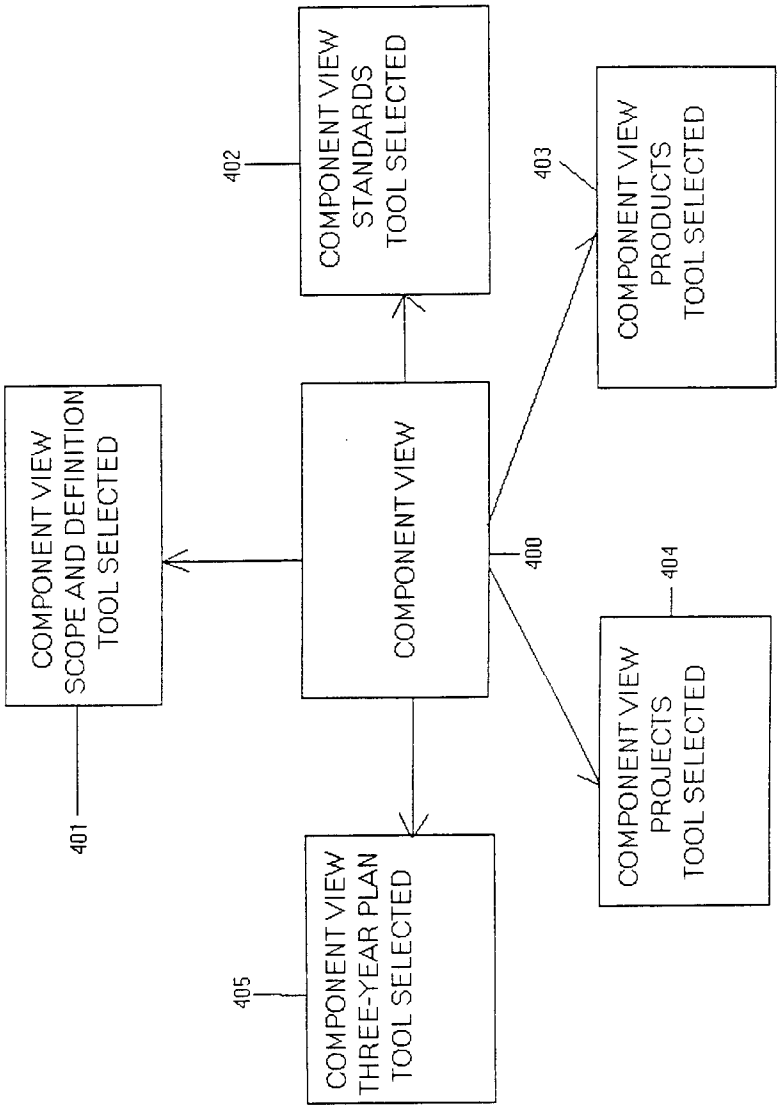

COMPONENT VIEW
COMPONENT VIEW SCOPE AND DEFINITION TOOL SELECTED
401
COMPONENT VIEW STANDARDS TOOL SELECTED
402
COMPONENT VIEW PRODUCTS TOOL SELECTED
403
COMPONENT VIEW PROJECTS TOOL SELECTED
404
COMPONENT VIEW THREE-YEAR PLAN TOOL SELECTED
405
400

FIGURE 24

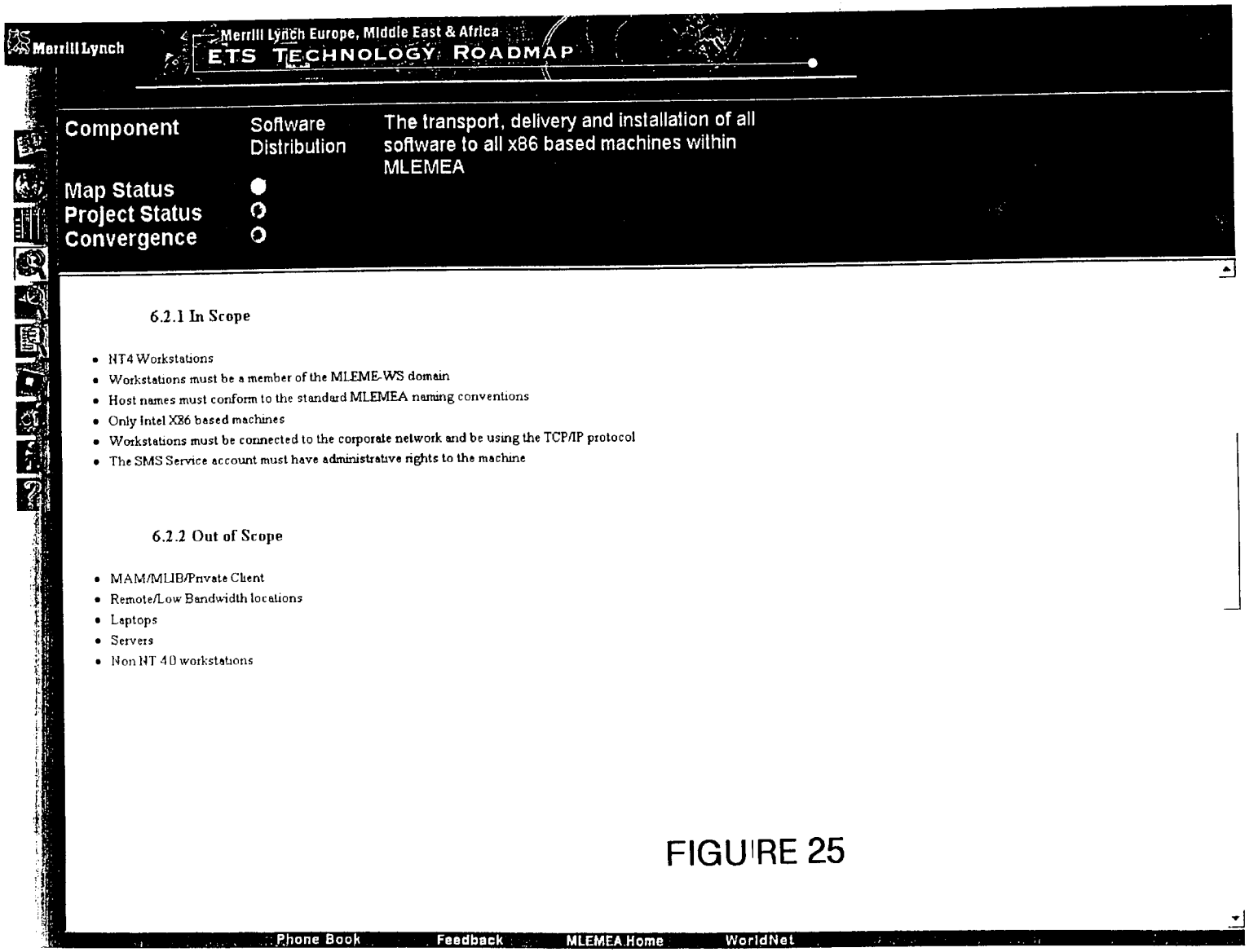

Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
Component
Software Distribution
The transport, delivery and installation of all software to all x86 based machines within MLEMEA
Map Status
Project Status
Convergence
6.2.1 In Scope
NT4 Workstations
Workstations must be a member of the MLEME-WS domain
Host names must conform to the standard MLEMEA naming conventions
Only Intel X86 based machines
Workstations must be connected to the corporate network and be using the TCP/IP protocol
The SMS Service account must have administrative rights to the machine
6.2.2 Out of Scope
MAM/MLIB/Private Client
Remote/Low Bandwidth locations
Laptops
Servers
Non NT 4.0 workstations
Phone Book
Feedback
MLEMEA Home
WorldNet

FIGURE 25

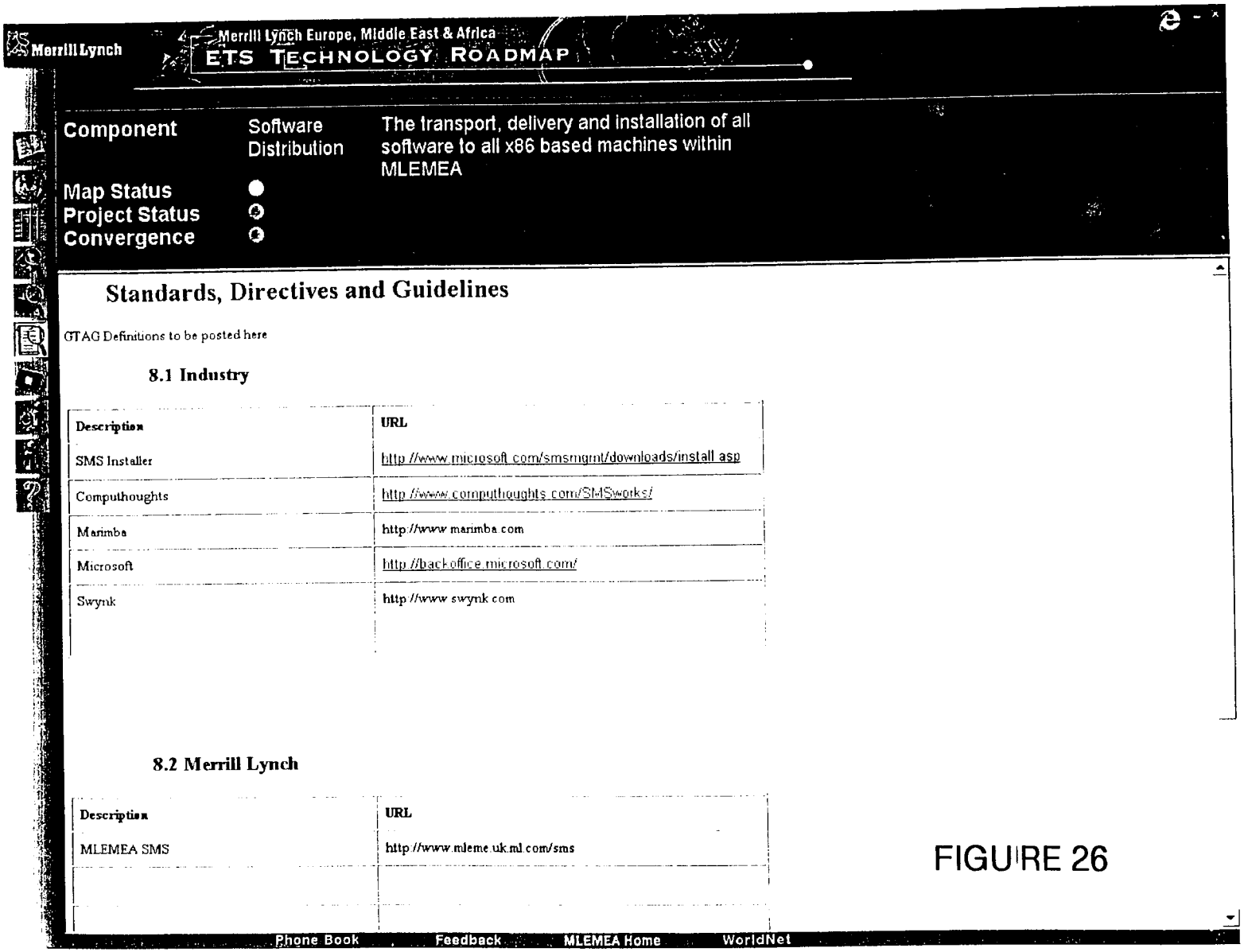

Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
Component
Software Distribution
The transport, delivery and installation of all software to all x86 based machines within MLEMEA
Map Status
Project Status
Convergence
Standards, Directives and Guidelines
GTAG Definitions to be posted here
8.1 Industry
Description
URL
SMS Installer
http://www.microsoft.com/smsmgmt/downloads/install.asp
Computhoughts
http://www.computhoughts.com/SMSworks/
Marimba
http://www.marimba.com
Microsoft
http://backoffice.microsoft.com/
Swynk
http://www.swynk.com
8.2 Merrill Lynch
Description
URL
MLEMEA SMS
http://www.mleme.uk.ml.com/sms
Phone Book
Feedback
MLEMEA Home
WorldNet

FIGURE 26

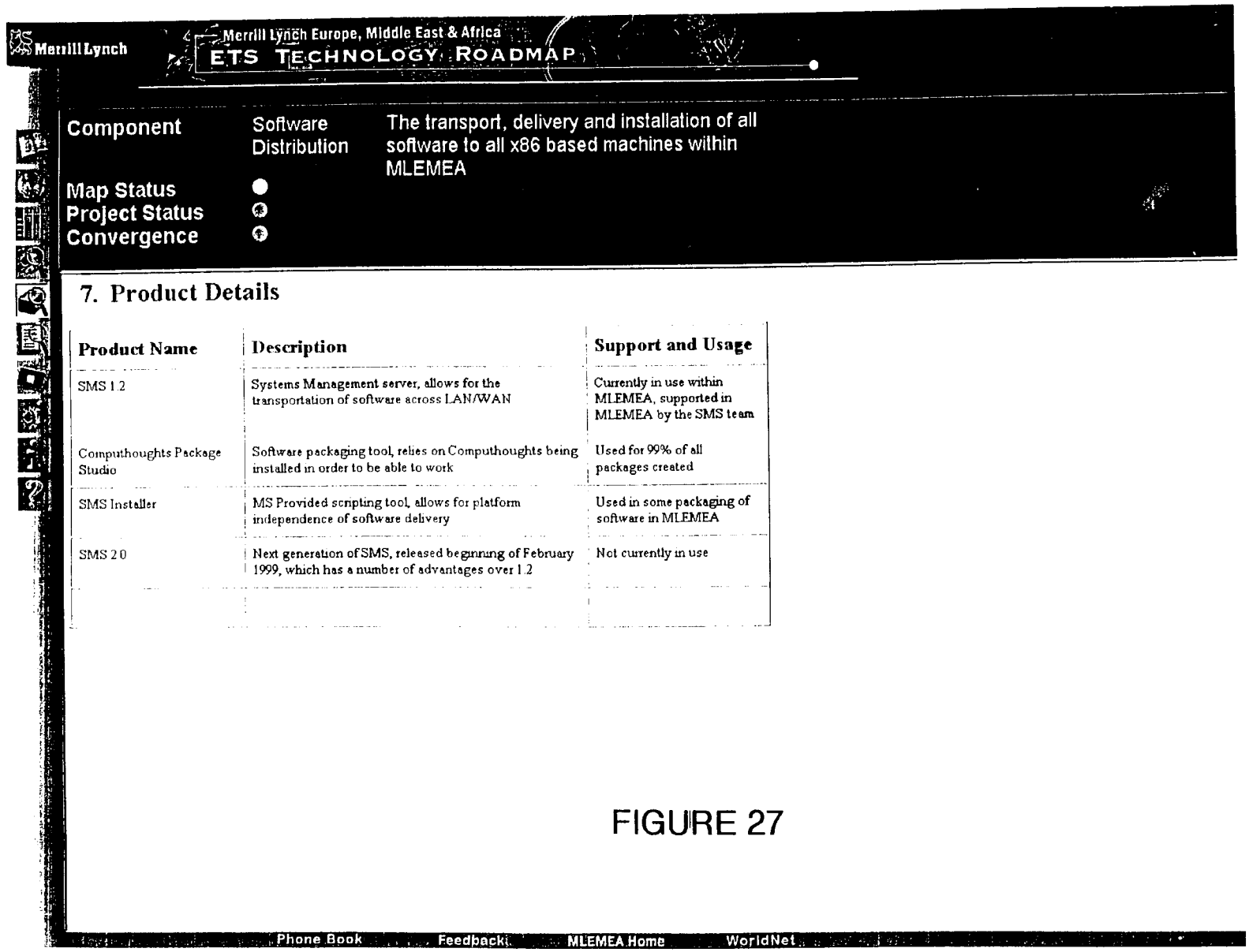

Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
Component
Software Distribution
The transport, delivery and installation of all software to all x86 based machines within MLEMEA
Map Status
Project Status
Convergence
7. Product Details
Product Name
Description
Support and Usage
SMS 1.2
Systems Management server, allows for the transportation of software across LAN/WAN
Currently in use within MLEMEA, supported in MLEMEA by the SMS team
Computhoughts Package Studio
Software packaging tool, relies on Computhoughts being installed in order to be able to work
Used for 99% of all packages created
SMS Installer
MS Provided scripting tool, allows for platform independence of software delivery
Used in some packaging of software in MLEMEA
SMS 2.0
Next generation of SMS, released beginning of February 1999, which has a number of advantages over 1.2
Not currently in use
Phone Book
Feedback
MLEMEA Home
WorldNet

FIGURE 27

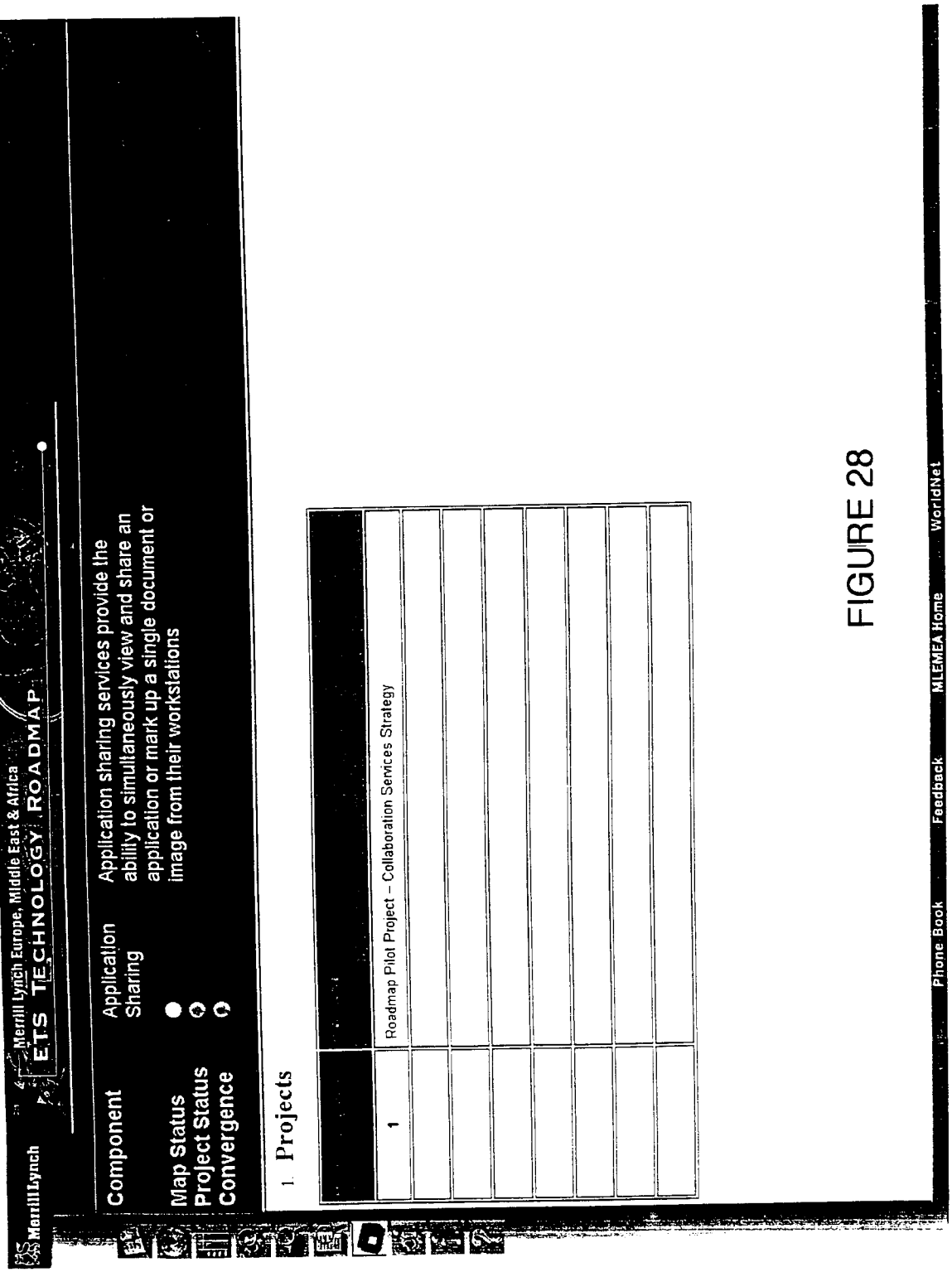

Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
Component
Application Sharing
Application sharing services provide the ability to simultaneously view and share an application or mark up a single document or image from their workstations
Map Status
Project Status
Convergence
1 Projects
1
Roadmap Pilot Project – Collaboration Services Strategy
Phone Book
Feedback
MLEMEA Home
WorldNet

FIGURE 28

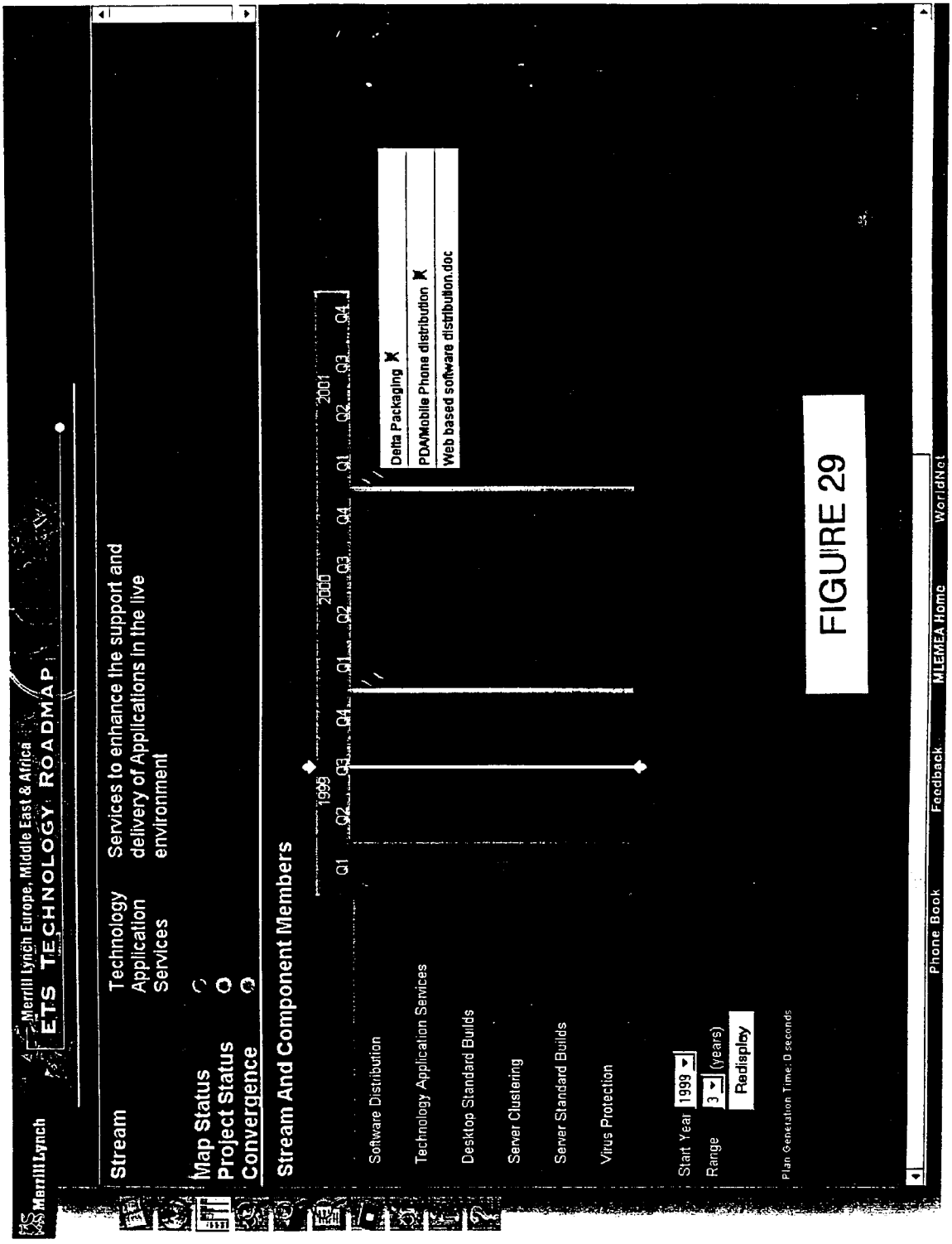

Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
Stream
Technology Application Services
Services to enhance the support and delivery of Applications in the live environment
Map Status
Project Status
Convergence
Stream And Component Members
1999
2000
2001
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
Software Distribution
Technology Application Services
Desktop Standard Builds
Server Clustering
Server Standard Builds
Virus Protection
Delta Packaging
PDA/Mobile Phone distribution
Web based software distribution.doc
Start Year 1999
Range 3 (years)
Redisplay
Plan Generation Time: 0 seconds
Phone Book
Feedback
MLEMEA Home
WorldNet

FIGURE 29

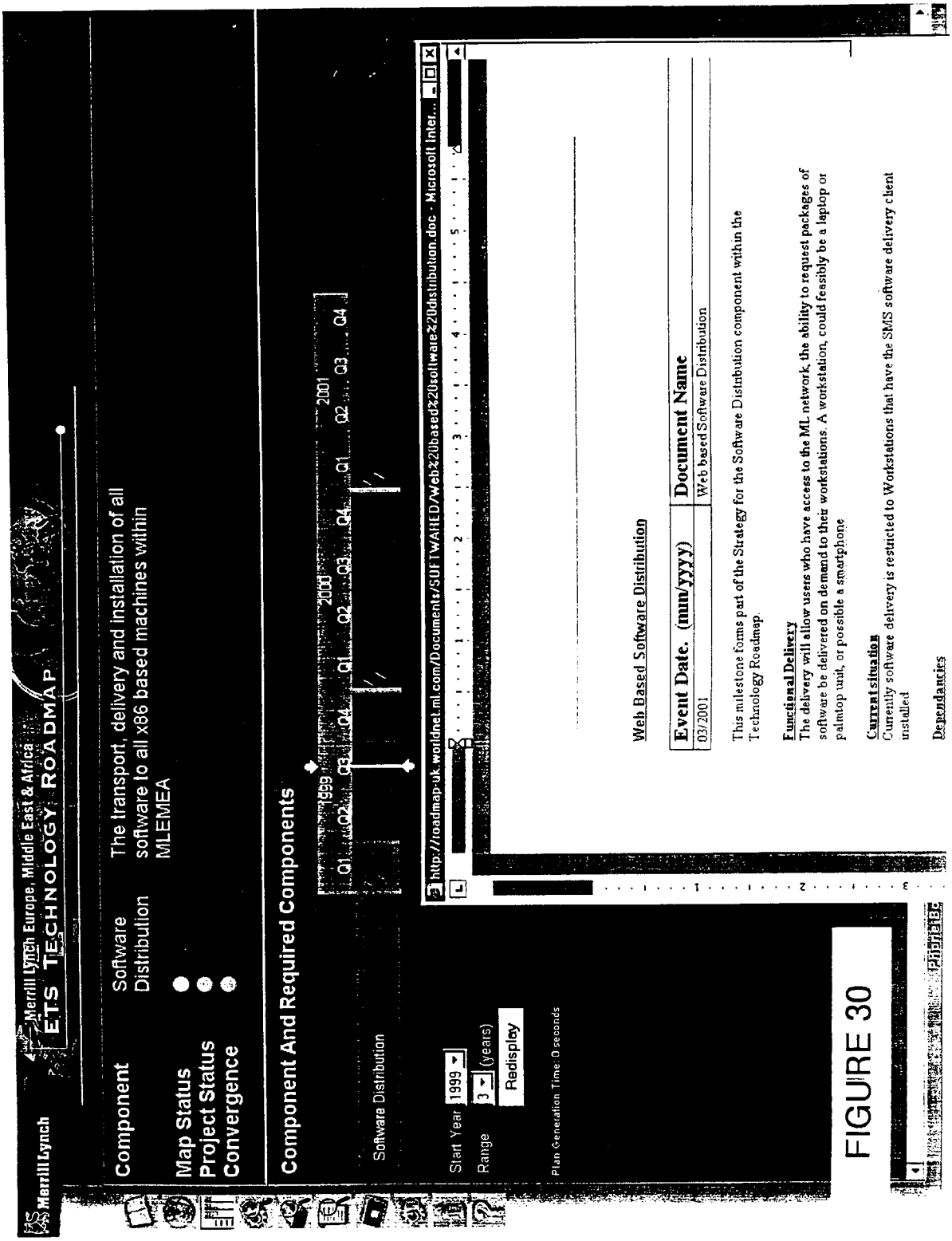

Merrill Lynch
Merrill Lynch Europe, Middle East & Africa
ETS TECHNOLOGY ROADMAP
Component
Software Distribution
The transport, delivery and installation of all software to all x86 based machines within MLEMEA
Map Status
Project Status
Convergence
Component And Required Components
1999
2000
2001
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
Software Distribution
Start Year 1999
Range 3 (years)
Redisplay
Plan Generation Time: 0 seconds
http://roadmap-uk.worldnet.ml.com/Documents/SUFTWAffED/Web%20based%20software%20distribution.doc - Microsoft Inter...
Web Based Software Distribution
Event Date. (mm/yyyy)
Document Name
03/2001
Web based Software Distribution
This milestone forms part of the Strategy for the Software Distribution component within the Technology Roadmap.
Functional Delivery
The delivery will allow users who have access to the ML network, the ability to request packages of software be delivered on demand to their workstations. A workstation, could feasibly be a laptop or palmtop unit, or possible a smartphone
Current situation
Currently software delivery is restricted to Workstations that have the SMS software delivery client installed
Dependancies

FIGURE 30